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COMPUTER WEEKLY

Mystery over BCS membership figures

MYSTERY surrounds the membership figures of the British Computer Society which are due for inclusion in its annual report, currently being prepared for the society's annual meeting at Birmingham in October.

The report says membership has remained buoyant at about 23,000. On the basis of fees, income for 1978/79 in theory should have been about £390,000, but it was reported at £294,176. Membership for 1979/80 is understood to be about 23,950.

There is some doubt whether the society is lapsing non-payers and even allowing them to go over a year before they are lapsed in an effort to keep up membership figures.

At present BCS head office staff report non-payers to the general treasurer who then circulates details to the branches so that officers can chase them up. Ultimately, the BCS council has the power to lapse non-payers.

In the formal notification of the society's annual meeting — which is to be held at Birmingham Council House on Thursday, October 9 at 2:30 pm — no members who are more than four months in arrears will be allowed to vote.

According to a confidential document sent to Computer Weekly, the society intends to ask for the fees to be put up, ranging from £26 to £32 for a fellow, and £19 to £24 for a member.

The document suggests that between 2 and 3% of fellows will be lost, 5% (about 500) of ordinary members, but compensated by 100 new members and transfers, and the new student intake of 1,000 will outnumber those resigning or moving to other grades by about 350. There will be a 1,750 loss against 2,250 new members.

The document says that a £2 cut in the proposed increase at all grades would cost the society about £35,000. However, the document suggests this means the membership is more in the order of 17,500.

A society spokesman was emphatic that the membership was over 23,000 and the amount of membership fees received had exceeded the budget. He added that if the rises were not approved there would have to be cuts at all levels, especially in specialist groups and publications.

The draft annual report is to be considered at the society's council meeting on July 23.

NEWS IN BRIEF

CAFS offered in US

FOLLOWING the US launch of the ME29 low-end mainframe and the Distributed Array Processor, DAP, ICL has now added CAFS, its hardware database system to its US product line. A CAFS subsystem will have a starting price of about $500,000 in the US and is offered there with 2950, 2956 and 2960 mainframes running under DME.

A VME/B version of the host software is under development but is not ready yet, and CAFS is currently available only with the old EDS 60 disc drives.

WP launch

A. B. DICK is to introduce a new word processor late this year. Called the Magna 3, it will have a half-page screen and will be clusterable up to 256 stations.

Into the regions

REGIONAL offices are being set up by the National Research Development Corp to help expand its activities in financing new technology projects. Managers have been appointed for Scotland, based in Glasgow, and the Midlands, based in Birmingham.

BUPA £1m order

A £1 MILLION order for an IBM 4341 with peripherals and communications hardware has been placed by BUPA. The two Mbyte processor will support an SNA network serving 130 IBM 3278 VDUs at the association's 17 branches.

Govt 'dithering' on £9m micros-in-schools project

APPALLINGLY slow progress is being made by the Department of Education and Science in getting the £9 million micros-in-schools project off the ground. This is the view of people closely involved with the project, according to John Coll, a member of the steering committee being set up to advise the DES on how to run the scheme.

Coll said he could see no good reason for the government's "dithering."

At the same time the Computer Retailers Association, a group of 20 microcomputer vendors, has challenged the whole DES approach to the project (CW, March 13) by urging that a lot of the £9 million should be spent now on equipping every school in the country with very low-cost single board micros so that hands on experience can be gained immediately.

Coll, a master at Arundel School in Sussex, is already deeply involved with micros in schools by way of his chairmanship of the Minicomputer Users in Secondary Education group which embraces micros. He said he was particularly concerned about the refusal by DES at the moment to fund any part of the micro project that was likely to continue beyond next March.

According to Coll the most urgently needed long term activity that had not started yet because of the current DES approach was the dissemination of information to teachers all over the country about the many aspects of the micro project. Some mechanism to handle this job needed to be set up urgently.

A DES spokeswoman described Coll's criticism as "premature," but she could not comment when asked when the March 1981 limit on project activities would be removed. She suggested that changes in the DES handling of the project might be made after the first meeting of the advisory committee due later this month.

One aspect of DES policy with which Coll is in total agreement is its plan to spend most of the £9 million on developing suitable software and training teachers rather than on microcomputer hardware. He totally opposes the recommendations of the Computer Retailers Association.

Coll described the CRA's views as "naive." He said there was a serious shortage of suitable software at the moment and the intention was that practising teachers would be paid to take time off to develop software packages for use as part of school subjects like history and geography, maths and the sciences.

US national education plan

WHILE the UK government still dithers over its plan to spend £9 million on micro education in schools, a US congressman is campaigning for a similar programme which would cost $4 million over the next year. Representative Thomas Downey (Democrat, New York) has introduced a Bill to establish national centres for promoting the use of cheap micros in primary and secondary classrooms.

The centres would be set up by private organisations under federal grants and would aim to develop curriculum materials and show schools how computer education can be organised by setting up pilot projects. Downey is concerned that many children, particularly from inner cities, might go all the way through school without ever seeing a computer.

Despite interest in both houses of Congress there is little chance that Downey's bill will be passed this year, owing to pressure of other legislative business. Educational funding in the US is even more decentralised than here.

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Shell tests Scrapbook as mail system

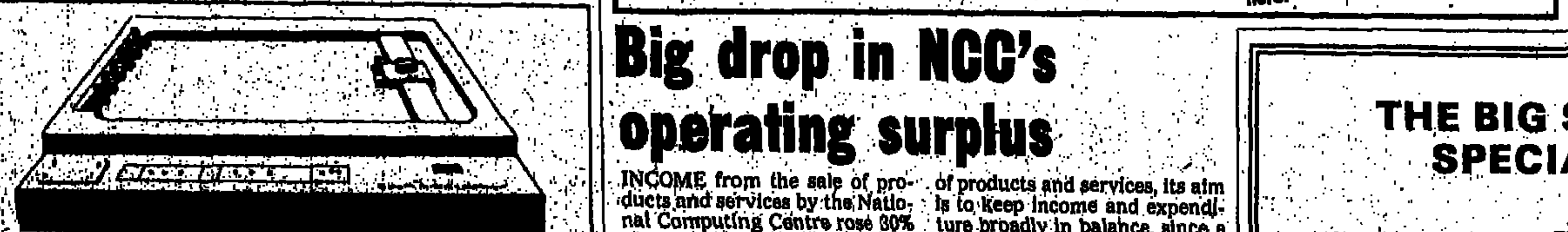
SCRAPBOOK, the information retrieval and database handling system originally developed at the National Physical Laboratory, is being used experimentally at Shell UK apparently to see if it can serve as an electronic mail system for managers. Special terminals and printers have been installed at Shell UK's London headquarters.

Scrapbook (CW, March 3 1977) is now handled by systems house Triad, which has converted it to run on Digital Equipment PDP-11s. An 11/34 can support about four simultaneous users, while an 11/70 can handle 30 to 35. Previous versions have been in use at the National Water Council and the EEC in Luxembourg.

Shell will not say how many terminals are involved in the trials, which are nearing their end, or who exactly the system is intended to benefit, but it is understood that managers are using the terminals themselves.

IBM back-up

A BACK-UP service offered by BOC Datasolve can take over work from IBM systems running under any of the OS operating systems, including MVS, within 24 hours. Datasolve will provide each subscriber with a special software interface intended to ensure that the subscriber's applications remain compatible with the back-up systems.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Big drop in NCC's operating surplus

INCOME from the sale of products and services by the National Computing Centre rose 30% to £2.6 million last year, while the centre's government work under contract for the Computers, Systems and Electronics Requirements Board fell to 26% of total income, compared with 30% last year (CW, July 12). The actual figure for the latter activity was £1.14 million, an increase of about 12% over 1978-79.

The surplus for the financial year, which ended March 31, 1980, was £68,610 down from £259,000 the previous year. The NCC does not declare a dividend.

With turnover derived from members' subscriptions, government contracts and sales of products and services, its aim is to keep income and expenditure broadly in balance, since a big surplus at the end of the year leaves the NCC liable for corporation tax. Income during the year rose 29.4% to £4.4 million.

Overall, it is charged with providing a framework of knowledge, standards and understanding of effective computing practice, with representing the interests of its members and selling computer products and services.

There are now 1,948 member establishments, and membership grew by 353 during the year.

The NCC has been cooperating closely with the Department of Industry in the Microprocessor Application Project.

Public access to information

THE Labour party is to be asked to press for a Data Protection Act covering both manual and computerised records and giving citizens a statutory right of access to records concerning them.

These are the central proposals in a discussion paper being drawn up for the Human Rights Sub-Committee of the party's executive committee by [illegible] Council for Civil Liberties.

Hewitt proposes that the Act should specify only a few areas where there is no right of access, such as criminal investigation information and national security. Medical information would not be excluded. Registration of computer and manual files would be necessary in many cases so that people would always be able to [illegible]

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Briefing

IBM's future systems

IMMINENT IBM product announcements include the long-overdue replacement for the 3705 SNA/NCP front end processor, a high speed tape streamer for archiving from the new 3375 and 3380 discs, and a double density version of the 3850 mass storage system, with integral 3880 controller and disc unit. In early 1982, a two gigabyte disc drive code-named McKinley will follow, and a file processor with some elements of the DL/1 database system built in.

These were among the predictions made at last week's Online Future Systems Forum. Reports, page 11.

Home for Babbage

A PERMANENT home has been found for the Charles Babbage Institute for the History of Information Processing at Minnesota University. Robert Stuewer, lecturer in the history of science at the university, will serve as acting director until a permanent head is found for the institute, which was founded in 1977 by Erwin Tomash, founder of Dataproducts.

More power

CMC has announced a new processor for its Reality business system providing 30% more power at 20% less cost. Memory and disc capacities can now be expanded up to 512K-bytes and 500 megabytes, respectively. CMC now faces direct competition from the two UK distributors set up by Ultimate Corp, the arch rival of CMC's US parent, Microdata. See page 5.

Racal leads in PoS funds transfer

POINT of sale terminals for electronic funds transfer are first on the list of Racal-Transcom which was formed to develop, manufacture and market electronic funds transfer systems at Salisbury, Wiltshire.

At present it comes under the umbrella of Racal-Datacom, which is outside the data communication group and is primarily involved in secure data communication.

Racal-Datacom's experience in encryption, a key requirement for EFTS, led it to respond to requests from clearing banks for concepts and pilot products meeting their requirements of security.

As a result an EFTS terminal activated by a magnetic stripe car and including an attached keypad to enable the customers to key in their secret personal number has been demonstrated. The terminal also includes a dual roll printer which produces a receipt for the customer and a transaction record for the store.

First product from Racal's latest subsidiary, Racal-Transcom, is a PoS terminal that can be used for electronic funds transfer. The customer (pictured left) is using a small hand held device to key in her personal code which must match the number encoded on her banker's card.

EEC calls for big micro boost

IF Europe's microelectronics industry is to overcome the lead held by the US and Japan by 1985, the development of the complex production equipment needed must be supported. This is a major plank in a strategy being planned by the EEC Commission.

The Commission is to present its support plan for microelectronics shortly and it diverges sharply from the national plans in various countries, notably France and West Germany, which emphasise the mastery of current technology frequently in collaboration with US companies.

The Commission's view is that Europe will never leap the technology gap unless the key process plant is available from local manufacturers. US process equipment manufacturers naturally favour US companies with the first models of their most advanced equipment, frequently in prototype form.

US microelectronic companies thus get nine months' or a year's vital experience with the next generation of plant before it is even offered to the European manufacturers.

The aim of the programme is for Europe to be able to produce original sub-micron microelectronic circuits by 1985.

A comparable US programme is being funded at $200 million, and this is the sort of money that the Commission will be seeking for its four-year programme.

The Commission is hoping for a decision to go ahead with the programme from the Council of Ministers by the end of the year, but the precedents are not good.

The four-year computer support plan took about three years to be accepted and the proposed budget was slashed to about a quarter of that originally sought, 25 million units of account (£15.18 million).

The microelectronics programme will also emphasise computer-aided design and testing equipment for microelectronic circuitry.

One hurdle to overcome is that the West Germans want the programme confining to national funding for national industries whereas other member states want an EEC-wide programme using funds that do not exist!

Falling orders blamed for NCR jobs axe

FALLING orders have forced NCR to axe 40 jobs in its commercial and industrial marketing division, including those of 17 graduates recruited last autumn. Other jobs affected are those of systems and support staff.

The company is endeavouring to find jobs in other divisions for the 40 staff and, according to a spokesman, two-thirds of the graduates have been redeployed. Alternative posts are more plentiful in the London area than in the North of England and Scotland. The spokesman dismissed as "rubbish" reports that the number of redundancies was much larger.

C and I markets the whole range of NCR's products, and has been broadly hit by firms putting off decisions to buy because of the cost of money and in anticipation of a recession, the company says. Its other divisions, retail and financial and government, have been affected much less.

The feeling that the impending recession is due to hit the computer industry generally was not borne out by other manufacturers. David Croft of Honeywell said that his firm "does not envisage laying off anyone," and expects to continue to do well unless the recession is very much deeper than anyone predicts.

A Burroughs spokesman said the company had no plans to lay off staff.

Buyer found

MICRO systems house Abacus Computers has been bought by an unnamed large UK peripherals distributor and a new company is to be formed which will be a subsidiary. Derek Rowe, who remains as managing director of Abacus, said final details would be settled next week.

He said that the company, where the receiver was called in by its bank (CW June 26) had been taken over as a going concern and would carry on operating as before.

Yoghourt goes better with chips

"The savings and opportunities provided by the introduction of our new system are enormous". That's the view of Fred Finlayson, Manager of Management Services with Express Dairy Foods. The new distributed processing system is one of the most ambitious in the country — with a total of 27 minicomputers serving 13 factories and 27 distribution depots. It will help Express get more dairy goods — like its Eden Vale products — to the right place at the right time.
Data Logic is implementing the project under a turnkey contract. That means software development, supply of computers and project management. It even, in this case, meant the development of special communications hardware based on microprocessors, for a more economic data network and fewer transmission errors.
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Olivetti's 8 mips system available in UK

OLIVETTI Computers, the subsidiary set up by Olivetti to sell IBM compatible processors, is to open an UK office in September. It has also extended its product line with the Hitachi M200H, probably the world's most powerful commercial computer.

Designated OH 5560 by Olivetti, the M200H is rated at over eight million instructions per second in its single processor form and outperforms a 3033 MP by about 10%. According to Olivetti it has just supplied the first OH 5560 in Europe to the Piedmont regional government in Turin.

Olivetti Computers already sells three smaller machines built by Hitachi as the OH 5520, 5530 and 5545. They cover most of the IBM 303X line. Olivetti also sells three machines built in the US by IPL Systems of Massachusetts. They are the OC 5310, 5320 and 5330 — the latter offering about 10% more power than an IBM 3031.

Two other firms holding marketing agreements with Hitachi are National Advanced Systems and BASF (CW, July 3). But neither has an agreement yet with Hitachi covering the M200H.

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COMPUTERVIEW

PAYE system: the case for single tender

SHOULD the government go out to open tender for the Inland Revenue's planned PAYE computer system, or should it go by single tender to ICL?

There is intense lobbying by all the major US companies to persuade the government to put it out to open tender, with promises of increased investment in the UK to follow if the contract goes their way (CW, July 10).

Talk of Univac opening its first computer equipment plant in the UK, of Burroughs expanding terminal manufacture in Croydon or of IBM opening a new UK factory on the strength of one contract, however big, can be dismissed out of hand. Univac or Burroughs or IBM make such decisions on much broader economic criteria than that, and will site new plants in the UK only if the balance of economic advantage — availability of cheap skilled labour against industrial relations problems, coupled with a financial incentive package — favours the UK rather than Ireland or Italy, France or Germany.

It would be as absurd for ICL to threaten to shut down its System Ten line in Hertfordshire and concentrate production in New York State if it does not get the contract as for any company to promise to site a new factory in the UK if it were awarded the contract.

Since IBM is phasing out large processor production at Havant, the only British-built mainframes which could meet the requirements of the project are ICL's 2900s and Honeywell's DPS 8. The latter are built at Newhouse in Scotland.

There are sufficient terminal manufacturers in the UK that one can safely assume the terminals will be built locally whoever gets the contract, so there are some grounds for favouring a manufacturer who will build the mainframes locally.

If the government has any belief in the value of an independent national computer industry the need must be to show why the order should not go to ICL. The company's business is expanding fairly rapidly, but it is mainly at the smaller end of the private sector market.

As Geoff Cross, the company's former managing director, used to say, it is infinitely harder to sell a system to Italian Railways if British Rail uses IBM.

Several foreign governments are looking for systems similar to that wanted by the Inland Revenue, New Zealand being one. ICL might win that one even without getting the UK system, but the first implementation of such a system is always the hardest, and if one is going have a disaster — and a system as big as this is like[ly to] run into a lot of problems whoever supplies the kit — [it is] preferable to be able to have it on your own doorstep.

Since the application programming is all to be d[one by] the Inland Revenue itself, the only serious doubt a[bout] ICL's ability is whether it can meet the network[ing] requirements. The DoI experiment to simulate [...] terminals on a 2972 under IDMS-X 200 and TPMS [is] intended to establish this (CW, July 3). Even if [there] remain problems with ICL's networking software [the] company will never get it right unless it can be p[roved] on systems such as that for the Inland Revenue. And [can] Honeywell be shown to be able to do it any better?

The operational requirements for the system [are] already established, so there is no reason for the c[ontract] tender to be delayed beyond the end of the year w[hen] the single tender rules run out. It is hard to see why [the] contract should go to anyone other than ICL.

LETTERS to the EDITOR

The human side of computing

IN the letter from Julian Newman (CW, June 19), he makes a friendly criticism of the fact that my column only cites work done at IBM and does not refer to the work of the many other eminent researchers in the humanised system field (Mythodology, April 17).

I am sure that Mr Newman appreciates that I have to balance depth with breadth of coverage. Sometimes I cite many instances, sometimes I choose to concentrate on a single interesting subject in depth. Forgive me, I do indeed know the work of many of those mentioned and would hope to deal with it and more, in time.

Some readers might like to consult the 14-page bibliography in Humanized Input, by Gilb and Weinberg.

Other readers, wishing more direct access to a varied set of sources, including Eason and Shackel, may be interested in an Infotech State of Art conference in Zurich on September 22-24 for the "Non-expert User". For those who require depth, a two-day humanised input tutorial follows on September 25-26.

IBM customers will be delighted to learn that it is now top-level company policy to design "usability" into new products. We are all affected because if the big systems don't get easier to use, the already highly user-friendly microcomputer software will win by default.

TOM GILB
Kolbotn, Norway.

Should the computer be a strike weapon?

THREATS to shut down computers in support of strikes will surely do the computer industry no good at all.

The shutdown of computers once they have obtained a foothold in the working environment is ethically wrong. Consider the situation of the local government employers over their recent attempts to control pay increases. The costs involved over a confrontation would have been catastrophic and the employers had to consider the well-being of the community at large.

One wonders if there isn't at some time in the future, going to be a fight to the death involving the computer as a strike argument which will set the industry back many, many years. Already firms must be wondering if the total dependence upon computerisation is a good or a bad thing.

The computer element in the local government affair involved a relatively small number of employees who, once convinced of a course of action, had the power to obtain "justice" with consummate ease. This "justice" not only accrued to the computer operators but to every Tom, Dick and Harry of the Nalgo Union.

Perhaps parallels can be drawn with the fire service, the medical profession and the armed services, although direct influence on life and death is not the centre of the argument.

Perhaps someone will study the effects upon firms of computer shutdown and arrive at a formula for standardisation of procedures and equipment to allow flexibility and ease of takeover capacity in the short term. There must be answers to the power of the computer as it now operates and the industrial chiefs will not be slow to realise that the power must be checked.

The computer industry may care to look closely at the implications of this absolute power and plan for the change towards standardisation which may come about, or alternatively the emergence of contracts of employment which preclude shutdown or the professional acceptance of a code of ethics, call it what you will, to exclude the computer from all discussions of pay.

JOHN D. THOMSON
Stafford.

The best recruits

THE article, Which people make the best recruits? (Page Six, June 12), referred to comments of mine made in an interview with The Observer. I would just like to clarify a few points.

I was advocating that companies consider individuals with few academic qualifications but with specific business experience in a given application or industry area as well as taking on raw graduates when recruiting.

These people are often a valuable base on which to build, as well as graduates who tend to spring more readily to mind when training in the computer industry is discussed. Both have their merits and each individual should be considered on his potential to the company and should not be slotted immediately into a given group.

R. M. BAIN
Unilever Computer Services,
Wembley, Middx.

Bradford Council

I REFER to Computerview (CW, July 3), and wish to make it clear that the Bradford Council did not pay a levy in respect of add[illegible] specific legal conditions in our contract with ICL, and indeed ICL has never demanded payment. Our choice of replacement mainframe was based solely on the tender which represented the best value and in fact two ICL 2903/4 computers were bought at the same time as the Honeywell 66 DPS 100.

N. K. PERRINS
Computer manager
City of Bradford
Metropolitan Council.

1984 and all that . . .

THIS week's example of the strange things people say about computers was sent in by John McFadyen of Paisley, who wins £5.

Computers should be used in court to decide whether an accused person is guilty or innocent.

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WHY NOT PHONE MODATA?

MPs told why tax man needs ICL kit

BECAUSE the British government bought radar equipment from a Dutch firm rather than from Plessey, two Middle Eastern countries and one in South America subsequently let it be known that they too would not be buying British.

This point was made at a meeting of the Parliamentary Computer Forum at Westminster on Monday when procurement policy was discussed.

The forum is a lobby group which aims to inform MPs about computers and information technology in general. The subject is particularly important at the moment in view of the imminent order for equipment for the big Inland Revenue PAYE project.

The quote about the radar order was perhaps the most striking defence for ICL's view that while government support for specific development projects would be welcomed, government orders were vital.

Several US mainframe manufacturers were represented and their view, predictably, was that development contracts, direct cash aid, or any kind of help for national manufacturers was fine, just so long as they did not get anything on a single-tender basis.

The employment issue also got an airing, with the big US firms present making strong cases for being as British as anyone else.

This was countered with the argument that although it was possible for multinationals to be so devolved that they really did respond to local needs with locally designed products, specific to a particular European market, in the computer industry this scarcely happened at all. It was claimed that in the field of European standards, US manufacturers were particularly obstructive.

The user's view of the problems of single tendering was strongly argued, with a catalogue of obstructions that had to be faced by organisations expected to adhere to such a policy.

Any move to deviate from the policy would result in the organisation being asked to re-tender, there would be Civil Service requests to examine the tender documents, requests for extended discussions and calls for independent surveys. As a result, projects could be intolerably delayed, key staff would leave and business be damaged.

If single tendering was in practice, public bodies should be compensated for any additional costs which resulted, so that they were removed from the balance sheet.

There was substantial feeling at the meeting that while ICL had been saved by national action, the rest of the UK's DP industry was in desperate need of help. The case of a US mini maker, in dire financial straits five years ago, was cited. The firm went to the US money market for backing, and five of the 10 projects it quoted to back its case were with UK public sector bodies. The firm got its money and is today thriving.

Prestel info providers to merge

TWO Prestel information providers are merging to form AVS Intext, with Malcolm Smith as managing director. Smith left the Prestel marketing staff last year to set up Intext, while Applied Viewdata Systems was set up by publisher New Opportunity Press which will be a major shareholder of the new company.

At the same time Smith, with fellow Intext founder Barry Standring, is starting another company called Systems Intext to explore the market for viewdata hardware by becoming agents for equipment makers.

Both companies will occupy Intext's existing offices at 145 Oxford Street, W1. The aim is to cover the whole range of viewdata activities as a consultancy and as a hardware, software and information supplier.

Composing system

THE Printing and Publishing Industry Training Board has ordered a £100,000 Ferranti CS7 computer-based composing system. It will be installed at Watford College, one of five training centres used by the board.

Univac boost for scientific DP

UNIVAC has further expanded its scientific offerings with the 1100/80 big mainframe by adding a scientific accelerator module, which is a high speed gate array device claimed to improve scientific Fortran processing performance by 25%.

Earlier this year it announced a back end array processing subsystem for the 1100/80. Maximum main memory on the 1100/80 has been doubled to eight million 36-bit words.

No UK prices have been given, but in the US, adding the accelerator to an existing 1100/80 costs $125,000, and an entry-level model, which with the accelerator is called an 1100/80S, costs $1.45 million. For this the customer gets the processor with the accelerator, 512K words of main memory, 4K buffer and one input-output unit.

Man pleads guilty to charge of commercial espionage

BELGIAN Marc Andre de Geyter pleaded guilty in the federal district court at Alexandra, Virginia, to attempting to obtain the source code of the Adabas database management system from Software AG with a view to handing it over the the Soviet Union.

The court heard him admit paying $500,000 to an FBI agent posing as an employee of the Swiss firm's US arm. The offence is classed as commercial and its detection involved both the FBI and CIA.

A Software AG spokesman at Renton, Virginia, said that copies of the source code were held only by Adabas itself and by a bank in escrow. Asked why the Soviet Union might be interested in the system, she said it was used by "some government agencies". The Pentagon is understood to be one user.

De Geyter is on $100,000 bail and is due to be sentenced on August 1. He could face up to a year in prison and fines of $25,000.

Decision from Maggie on single tenders soon

A DECISION on whether or not to adopt an open tender approach to the Inland Revenue's PAYE contract is expected this week from the Prime Minister. And in the past week leading up to the decision Burroughs, more than any other of ICL's competitors, did all it could to make the case for open tendering.

Last Thursday, July 10, it held a press conference to discuss the Inland Revenue requirements and to answer questions, most of which were about Burrough's suitability for meeting them. It took the opportunity to talk about the big terminal networks it had set up for the UK clearing banks anr to make the point that if it got the PAYE contract, the majority of the value would be added in the UK.

On Monday, Burroughs' government marketing manager, Mike Rudd argued for open tendering against former Computer Weekly editor Malcolm Peltu on Radio 4's Today programme, and Rudd would also have appeared on BBC1's Nationwide programme that evening if ICL had not decided against taking part at the last minute.

ICL's directors of corporate communications Alan Benjamin said he thought it sensible to decline Nationwide's offer because the whole matter was "sub judice".

The same evening, Burroughs' campaign trail took managing director Bob Akers, along with an entourage of his lieutenants, to the Parliamentary Computer Forum, where Akers strongly reiterated Burroughs' enthusiasm for open tendering.

Labour backing Britain for PAYE contract

THE Labour Party has come out solidly in favour of ICL getting the huge Inland Revenue PAYE contract through the government's single tender policy. Shadow Chancellor Denis Healey and five other senior Labour MPs have backed a Commons motion emphasising the "strategic and economic importance" of ICL being the prime contractor while 30 Labour back benchers have put their names to another motion supporting the case for ICL.

Both motions were tabled in the Commons on July 11, as part of an adjournement debate on information technology.

The senior Labour MPs motion was tabled by Shadow Civil Service Minister, Ian Wrigglesworth, who commented that it would be a "savage blow" to ICL if the PAYE contract went to a foreign firm. Wrigglesworth claimed that 800 jobs at ICL would be at risk if the contract went elsewhere. He said that ICL would lose an opportunity for a massive increase in volume production and experience in providing the latest technology which would damage its prestige abroad considerably.

Other senior Labour members that signed the motion were former trade secretary [illegible] industry secretary Eric Varley; and former industry minister of State Gerald Kaufman. The latter is the MP for Manchester Ardwick, the location of ICL's West Gorton factory.

ICL wrote to 30 MPs last week listing reasons why they should press ICL's case (CW, July 10) and the motion tabled by the 30 members in the House last Friday warned that the export potential of ICL could be damaged and the future employment prospects of "thousands of highly skilled technicians and workers" in ICL plants in Manchester and the North West would be put at risk if ICL did not get the order. ICL's big 2900 mainframes are built at Ashton-under-Lyne.

In response to this bombardment Michael Marshall, Under Secretary of State for Industry, reminded the House that any orders placed under the single tender policy were subject to satisfactory terms being offered by ICL.

ASTMS snubbed

WHITE collar union ASTMA has failed in its High Court action for recognition by the Post Office, which has been trying to reduce the number of unions it deals with. Last year 1,000 [illegible] ASTMS as a result of a merger.

Yesterday's branch office

Today's*

Branch office of the future, but available now — that's the Model 745 Portable, from the "Silent 700" series of electronic data terminals. It gives representatives immediate access to computerised data wherever there's a telephone and power point.

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Downtime

by Chad

The answer's always the same

I NEVER cease to be amazed by the ingenuity of toymakers. Why can't we harness it to solve all our industrial problems? Ah, but then the toymakers nowadays are all in Japan and Hong Kong, and it's not their industrial problems we want solved.

What prompts my awe now is a toy watch I saw in a shop the other day. Remember the toy watches of our youth? You would twiddle the knob and the hands would turn round (together). Now how do you suppose you would make a working toy *digital* watch?

Impossible? Not at all. There it was "New battery-powered digital watch — lights up like the real thing." And indeed it did. I pressed the button and it read "11.27."

It was in fact 2.34 at the time, so my razor-sharp mind realised there was a catch. The figures are moulded into a plastic template so it is permanently 11.27.

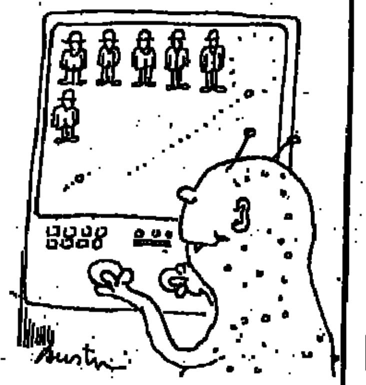
"Stands the toy watch at half past eleven and is there honey still for lunch?" It could give our offspring some curious ideas about time.

The next step is obviously a toy computer. It would have a printer with pre-printed stationery in a roll inside, and for whatever problem you tapped the keys, you would get a piece of paper with the same answer.

But what would this answer be? It shouldn't be too difficult to think of one, considering how many experts these days have a needle-stuck-in-groove mechanism for giving advice.

Every week there is a radio programme for people to phone in about the problems they are having with their children, and to every question the answer is "Don't worry, they'll get over it." Harley Street is populated by psychiatrists who listen more or less intently for 50 minutes and then say, "Come to terms with it."

With all this skill in prefabricated answers, we ought to incorporate them in real computers as well as toy ones.



Chipping away

LAST week's biggest yawn was the news that the Labour Party thinks there should be more State intervention to protect us from the ravages of the microchip. This is what is known in our trade as a "Dog bites man" story. A journalist could grow old waiting for his real "Man bites dog" story to come along, so I will generate mine on my own:

The Labour Party announced today it had decided that encouraging small businesses and free market economy would create far more jobs than the chip would destroy. There was no need for new technology agreements whereby union approval would have to be obtained before new equipment was brought in, as management invariably knew more about how to run the business than the workers did. Employers should be encouraged to make people redundant since this would divert manpower to more productive sectors of the economy.

At the same time Sir Keith Joseph has decided that the best way to boost our prosperity is to nationalise all UK firms making microchips.

GILB'S MYTHOLOGY

The Ethics method of system design

Tom Gilb is an independent consultant, lecturer and author on computing topics.

MUMFORD and Weir, of Manchester Business School, have developed a high level system design method, known as the Ethics method* (Effective Technical and Human Implementation of Computer Systems).

I believe that most systems would derive substantial benefit from making use of this approach, simply because we presently give too little conscious thought to human and employee user objectives when designing computer systems.

Surely management and employee representatives are growing restless and aware that presently designed computerised systems have devoted too little thought to the ultimate users? They are just waiting for specific answers as to how to organise the system development effort in a more constructive employee-centred direction. The Ethics method gives a simple but formal checklist approach that allows all levels of non-computer-expert management and employee representative to participate in the selection of the major strategy of change.

In preparation for a speech I will give at the Infotech Non-Expert User Conference (Zurich, September 22-24) I approached the same problem, before I read the Ethics book, using my own style of tools, the Design by Objectives method, samples of which I have shown in earlier columns.

I should like to share with the reader a part of that paper. There is an important difference between DBO and Ethics here.

In DBO we try to state all human and technical goals in measurable and quantified formats.

In Ethics, all the examples of goals were stated without any measurable level of ambition, or any means of objective measurement. To be fair, I greatly admire Ethics' use of employee attitude measurement to analyse the old system shortcomings. But this is not the same as an explicit requirement to measure by survey after the new system is installed, and to meet certain employee satisfaction levels in order to declare the system a formal success.

I believe that it should be possible, without any loss of employee participative ability, to state all of your new system goals and constraints in measurable format, even within the framework of Ethics. In fact I would argue that measurable goals represent a much better medium of communication between the parties involved. The employees know in a more concrete way what the level of improvement will be, and the technical system developers know the minimum levels to which they must design the system.

Instead of having an Ethics objective such as "creation of a workforce which is efficient . . ." (page 155, Ethics book), I think we ought to state that we plan that the employees shall average 100 customers per day, with less than one error per thousand customers slipping through the computer, and one day on-the-job training of present employees as all that is necessary to achieve such efficiency.

I hope that Mumford and Weir would agree, and that the problem is the practical ... getting people to state ... what they really want, ... be responsible for having ... for.

It may be easier to get ... ment in the short term to ... goals, but I don't believe ... this solves the long-term ... blem of living with the ... tem.

If we are truly going to ... towards more human ... for human beings, then I ... we must use a very ... specification language ... cussing them. Ethics gives ... very useful structure to ... with, and I hope some ... will agree with me that ... sign By Objectives ... measurable objectives ... improve upon that structure.

*Computer Systems in Work Design — the Ethics Method, by Enid Mumford and Mary Weir. Associated Business Press, London, 1979 ...

FOCUS

Managing without a system

DEPENDENCE on computers is never more obvious than when the DP service fails. Whether it is the US defence system or the local high street banks which cannot produce the required goods — in one case world security, and the other the monthly statement of account — computers are more noticeable when they are not performing as per requirements.

Letting the computer take the blame has been established procedure since the early generation days of the punch card and file sort hardware.

Fortunately this approach appears to be declining, except perhaps for government and State computing operations.

However, even the best managed systems have their off-day, or days. While a short break in normal service is tolerable — except possibly where US defence or airline booking programs are involved — prolonged delays call for much resourcefulness.

Following an initial period of irritation and general helplessness, users have to set about creating some make-do-and-manage manual procedures.

At such times, harmony between DP and user teams is very much in evidence. Adversity not only brings out the best in all concerned but also brings out long forgotten skills in manipulating add-listers and label printers.

Probably many users can survive with the day-before-yesterday stock or cash position listings. Beyond this point, contingency planning takes over.

Such action is, of course, triggered somewhat earlier where real time operations are the order of the day. Co-operation and liaison between the DP and office teams become noticeably close. The common enemy becomes the computer manufacturer and his site engineers.

Solidarity links are formed with the keyboard girls filling their enforced idle time by relaying messages between DP control and office personnel.

The system manager achieves rapport with the office manager as both plan, over many coffees and biscuits, methods of keeping the company show on the road until the computer system is fully recovered.

Even the senior operators make a rare appearance and assure all concerned that everything possible is being done and the arrival of a specialist engineer, summoned from Europe, is imminent. Before long, operations personnel are assisting with the add-lister and ... procedures.

For management, such computer failures are ... events. They soon discover ... comprehensive computer ... up procedures are largely ... tion of the industry.

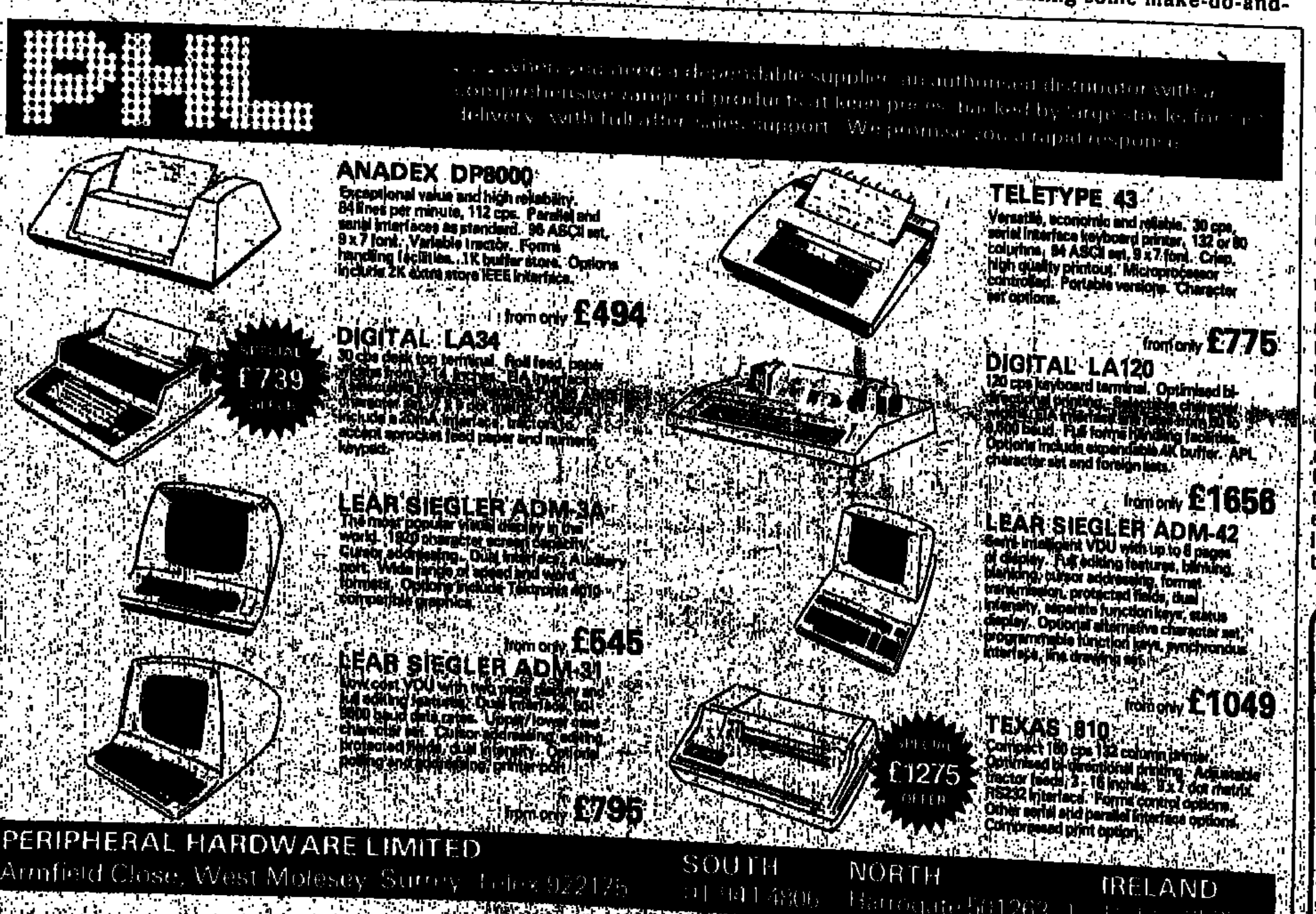
It is no more possible to ... cess company workloads ... alternative machines than ... recreate manual clerical ... — except where there has ... for instance, a complete ... of the computer system ... lowing fire or flood ... solutions, at least in the ... term, are seldom practical.

Few installations can ... identical operations ... configurations or even ... the same time, office ... have probably travelled ... down the DP path to be ... of being manually converted.

At such times of stress ... strain, the DPM is well ... to keep his head well ... down. In the short term ... organise the best possible ... gineering attention to ... the immediate problem.

If necessary, a strong ... from his managing director ... the manufacturers ... Next should come a ... inquest as soon as the system ... up and running.

Recovery may well ... for the DP system ... tions. But for the DP ... full scale recovery will ... protracted affair.



TEN YEARS AGO. . .

From Computer Weekly of July 16, 1970

Six IBM users opt for ICL ME29 kit

WITH half the customers for the 200 ICL ME29s on order being new to ICL, including six IBM users, the machine seems to be living up to ICL's expectations. The six orders, worth £600,000, are led by Victoria University in New Zealand, which has cancelled its IBM System 38 order for the ME29.

The natural growth path for IBM 370/125 users is the 4300 series, so to get department store chain Galeries Anspach in Belgium and Hertsmere Borough Council to opt for ME29s is considered something of a coup.

System 3s and System 32s are to be replaced with ME29s by sugar cane harvester manufacturer Tofts in Australia as well as Standard Tube and Lloyds Electronic in Canada. Both Canadian customers are long-time IBM users.

Galeries Anspach chose the ME29/45 because it also wants 100 of the company's 9500 series point of sale terminals and the IDMS database.

Police system

AVON and Somerset police has ordered an Intelex-11 message switching system worth £100,000 from Arbat. Due for autumn delivery, the system will handle over 60 lines and will be based on the new Digital Equipment PDP-11/44.

UK office opened

CANADIAN VDU manufacturer Volker Craig has set up a wholly owned UK subsidiary, Volker Craig (UK) Ltd, at Tolpits Lane, Watford, Herts. Tel: Watford (92) 40043.

Takeover

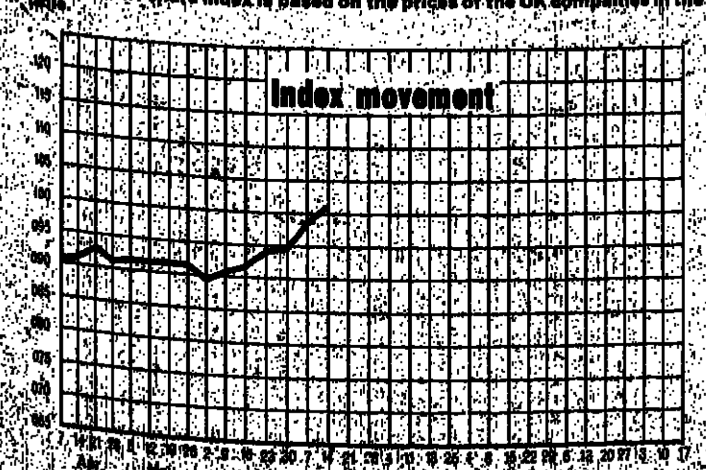
FOLLOWING successful trading which boosted its third quarter profits 39% to $370,000 on sales of $4.5 million, multiplexer manufacturer Timeplex of New Jersey has taken over Cermetek which has plants in California and Mexico making hybrid microcircuits for data communications.

CW SHARES TABLE

Date: 11/7/80 Index: 101.64 Change: +3.82

Pence 1980 High	Pence 1980 Low	London Stock Exchange Stock	Pence Price	Pence C'nge	$ 1980 High	$ 1980 Low	New York Stock Exchange Stock	$ Price	$ C'nge
416	230	A Comp Tech (20p)	410	[illegible]	18⅝	14⅜	AM International	17	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

The table shows the closing prices in London and New York at the end of last week. The share index is based on the prices of the UK companies in the table.



Random questions on Ernie

THE integrity of Ernie, the machine used to select randomly Premium Bond winners, was questioned in the House of Commons last month.

Neville Trotter, MP (Con, Tynemouth) asked the Chancellor of the Exchequer if Ernie was reliable after the first three prizes of a draw made in May had all gone to persons living in the London area.

Financial Secretary Nigel Lawson said the Treasury was satisfied with the fairness of the draw. He added that the current Ernie began work in 1973 and was due to be replaced in 1986.

A spokesman for the Department of National Savings, the Treasury sub-department responsible for Ernie, commented: "One week in May the top three prizes of £100,000, £50,000 and £25,000 all went to persons in the London area.

"That's the first time it's happened since we've had these weekly jackpots. It's pure coincidence. Actually Ernie isn't a computer; it's a Plessey random number selector.

"We use a small Honeywell system to feed it such information, such as when to start and how many selections to make. We have maintenance contracts with Plessey and Honeywell which last until 1986."

CMC Reality user base faces threat

ALREADY threatened by two systems suppliers, CMC's base of Reality users in the UK is now being attacked by a third company, EDP Systems, the newly-formed subsidiary of Sheffield bureau, Electronic Data Processing.

EDP is the second UK distributor appointed by US firm Ultimate Corp, which implemented the Reality software on the Honeywell Level 6 minicomputer and already provides strong competition in the US for CMC's parent, Microdata (CW, March 27).

Until now the Sheffield bureau itself has been a CMC Reality user, running its time sharing service on three CMC machines. These are now being replaced by Ultimate systems. The bureau's main applications software offering developed on the Realities is called Interface and is now being sold, with the rest of the Ultimate hardware/software package, by EDP Systems.

EDP will be selling Ultimate systems all over the UK even though its contract with Ultimate only specifies the Isle of Man as its territory.

However, an EDP spokesman explained that the Isle of Man was simply a technicality to get around the existing agreement between Ultimate and Universal Computers of London which specifies the UK as Universal's territory.

The Reality software was developed in the US by Richard Pick, now of Richard Pick and Associates, and was implemented on Level 6 by Ultimate after it fell out with Microdata and stopped selling Microdata machines.

The Pick software is also used on the Prime Information system sold in the UK by PRC International (CW, March 27) and is now being tailored to run on a Zilog Z8000 based machine being introduced at the end of the year by Applied Digital Data Systems (Software File, July 10).

EDP's Interface software has already been sold in the US for use on Ultimate systems by the Sheffield firm's US associate, EDP of America Inc.

The managing director of EDP Systems is John Murray who was formerly general manager of CMC. EDP's first customer for Ultimate is Mitre Sports of Huddersfield.

Private viewdata system goes on trial

A PRIVATE viewdata system called Metrotel developed by Grand Metropolitan subsidiary Metrotech Management Technology of Uxbridge, Middx, is to go on two months' trial at the Wembley Crest Hotel in time to provide information to guests attending the 1980 Microcomputer Show at Wembley Conference Centre from Tuesday, July 22. The hotel aims to sell frames to conference organisers and local traders.

The system uses a Vector Graphics/MZ microcomputer with one editing terminal and one output port for feeding a rotating display of 30 frames through the hotel's cable television network.

Floppy disc based systems give a capacity of 250 to 400 frames, while up to 8,000 frames can be held on the mini-Winchester based version which uses a Cromemco Z2-H micro. Up to eight interactive ports can be configured at a cost of £500 on top of the basic £6,500 price.

The 28 kilobyte program is written in Basic and Z80 machine code in five modules including a database manager, which allows interrogation to check on the frame routing structure, and an editing module which provides some text handling facilities and supports a graphics tablet for inputting drawings with a magnetic pen.

The Metrotel system is designed for two main applications: local editing and bulk updating for public service information providers; and driving public displays from an in-house system. It has attracted the interest of potential dealers in Holland, Italy and Hong Kong.

Prestel picked

AFTER opting for the BBC's teletext system (CW, June 12), Austria has become the fifth country to buy the Prestel viewdata system from British Telecom. Trials are to begin in September using a GEC 4065 with 32 access ports and two 70 megabyte disc drives, a smaller system than the 4082 used in the UK and elsewhere. The software is being supplied via ITT Austria.

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CONTROL DATASET

Control Data

PAGE SIX for programmers and analysts

Pitfalls of contract programming...

THE opinion commonly held in the industry about contract programmers is that they are overpaid, but very valuable. At a time when the right calibre of qualified staff is needed with increasing urgency, employers have to rely more and more upon the services offered by freelance programmers for speedy solutions to their staff problems, and have to pay accordingly.

Becoming a contract programmer is a dream held by many programmers working away in small under-paid installations. The money, the variety of work and the wonderful feeling of being self-employed is a great attraction.

Martin Levy, at 22, was enjoying such a life and although his story may be amusing it raises some interesting points about the risks a contract programmer takes.

When Martin received a telephone call from his agency asking him to work in Rome on a PDP-11 contract for the European Space Agency, naturally he agreed and within three weeks was off, so he thought, for six months.

A luxury flat in the hills just outside Rome, £300 a week and a jet-setter's lifestyle sounds like a programmer's or indeed anybody's dream. Unfortunately for Martin it was short-lived and the ski-slopes a mile and a half away from his home were ultimately his downfall.

An accident while ski-ing resulted in a badly broken leg, and with little trust in Italian doctors Martin chose to fly back to the UK for treatment. Luckily for him, after five weeks he was fit enough to hobble back on crutches to his job in Italy where his employers had agreed to hold his contract.

Breaking a leg is unfortunate, or even funny, depending on how you look at it; breaking two legs or even the same leg twice is downright ridiculous.

Martin's employers could not be persuaded to see the funny side when he rang to tell them his "you're not going to believe this" story of how he had broken his leg again, inside the plaster, in a car accident.

The spiral fracture that occurred during the second accident meant it was impossible for Martin to stay in his apartment and his lack of faith in the local doctors necessitated a further return to the UK — which meant that he lost the contract.

Consequently, Martin is in the unenviable position of having a broken leg and being out of work. Therefore anything he applies for has to be in reasonable travelling distance of his home.

Martin's misfortunes are so unlucky they can raise a smile. But the whole incident also raises some pertinent questions about the security of a contracting job.

For example, although there is a reciprocal health agreement which in theory enables a British citizen to obtain medical treatment in an EEC country free of charge, in practice this is difficult to do and obviously someone with a broken leg is in no position to run around obtaining all the relevant forms before he goes into a hospital.

Also, the tax arrangements for a Briton working for a UK company abroad are very complicated, but basically if you stay abroad for some time, eg a year, you are not eligible to pay English or foreign tax. If the period of work is considerably less, you have to pay quite a substantial sum in tax after your return.

The other important thing to remember is that contractors are virtually self-employed and consequently do not pay national insurance. Therefore they are not eligible for sickness or unemployment benefit and when accidents do happen the contract programmer is left with very little to fall back upon.

If you're healthy and lucky then contracting is ideal, but for the accident-prone the pitfalls of contract work are as many as the advantages.

Martin is hoping to claim loss of earnings and personal injury insurance from an Italian company as a result of the car accident but, in many other respects, all costs will have to be borne personally.

Someone who is not entitled to unemployment benefit is eligible for social security payments, but for someone who had recently been earning £300 a week, these would be minimal.

"In theory," he says, "I'm a much wanted commodity. In practice it just doesn't work like that."

Martin is currently considering jobs which he otherwise would not have taken, but even these "boring" or "unattractive" contracts are worth about £250 a week. While employers are desperate enough for the right sort of staff this trend will no doubt continue.

In DP, the career ladder usually means the unimaginative progress from programmer to systems analyst and then into management. As Martin said: "I enjoy being a programmer. I don't want to be anything else."

So if you are a programmer, and they are in short supply as everybody knows, and you are also a very good one, why should you become an average systems analyst or a poor manager?

Page Six will be pleased to hear your views.

Emergency service for pre-printed forms

AN emergency service for preprinted forms has been started by Oyez, the publishing arm of the Solicitors' Law Stationery Society Ltd.

It specialises in small to medium sized continuous stationery runs and quotes a delivery period of three to four weeks against the normal eight to 10 weeks. Form depths vary between three and 16 inches.

Oyez also says it can provide vital forms such as pay slips, invoices, or dispatch notes within days. All processes, including design, setting, artwork, platemaking and printing, can be done in-house and orders can be delivered either by its own vans or via British Railway's Red Star service.

Further details from Oyez, Freepost, London, SE1 4PU. Tel: 01-407 8055.

Puzzler

WHERE n points can be arranged on a plane surface in the form of a triangle, n is referred to as being a Triangular number. The first such number (apart from 1) is 1 + 2 = 3, the second 1 + 2 + 3 = 6, and the third 1 + 2 + 3 + 4 = 10.

When n is also a square, the number in question is called a Square Triangle, and the first three of these are 1, 36 and 1225. All this is leading up to this week's problem, which is:

The smallest integral right triangle with two sides "consecutive" is 3-4-5, and the next largest is 20-21-29. What is the third largest such triangle? See page 37 for solution.

(Hint: the answer can be derived directly from the series of Square Triangles, if you only know how.)

OP SPOT

Why Paul finds it difficult to get work after an NCC course

Bryers

LIVING in the high unemployment area of Merseyside can be very frustrating when you're young and keen to make a start on your career.

That's certainly true in the case of Paul Bryers, an intelligent, well-educated 18-year-old who is trying to break into the computer industry. Five months after acquiring his NCC Threshold Certificate in Data Processing at St Helens College of Technology, Paul is still unable to find a job as a junior operator.

It's certainly not due to a lack of effort. He told me: "I've written to 40 or so companies, completed 10 application forms by return and attended four interviews. But so far, nothing."

He's also taken aptitude tests at three of the four, and passed them all and told the interviewer concerned about the subject matter he studied at the college.

Jack Bell, who is responsible for the personnel and industrial placement side of the NCC Threshold courses at St Helens College, told me: "Unfortunately Paul is one of many who are looking for work in the Merseyside area.

"Firms have to advertise internally before looking outside. This applies to all sectors of industry, not just DP."

According to Bell, Paul Bryers was very keen on becoming a programmer when he started the 10-month course in June last year.

But Bell and David Fletcher, head of the DP Division at the college, thought he would do better by concentrating on operating and moving into programming after he had gained more experience.

"Paul's a bright lad — he's intelligent and did very well at school. However, he tended not to ask enough questions on the course. As we see it, it's essential for programmers to communicate with systems analysts as well as having the ability to work on their own.

"I do tell students that they can move to other areas to find employment, but when you're young and have strong family ties that's very difficult."

Just in case there are any Merseyside sites looking for a junior operator, here are Paul's details: He has GCE "O" Levels in English Language, Mathematics, Physics, Chemistry and Geography, and holds an NCC Threshold Certificate in Data Processing. His address is [illegible] Wheatfield Road, Cronton, [illegible] Widnes, Cheshire. Tel: 051-[illegible] 7021.

BERNARD ALL[illegible]

...and it's not much fun for the operators

THE skills of contract staff are under-used to a great extent, and they often have to put up with poorly-written and inadequate documentation.

On the other hand, they are able to acquire a broad experience by going out and about in the computer industry and, contrary to popular opinion, often establish a good working relationship with permanent staff.

These are some of the pluses and minuses of giving up the security of permanent employment and going contract, according to a survey on contracting carried out by the VLI Group.

Questions were put to 750 operators and programmers, 13% responded, and the results were published in VL Eye, the group's house journal.

Most of the contractors agreed that documentation is very important in helping them carry out their work efficiently. One in three operators said that documentation was inadequate.

Rather surprisingly, some 80% of the contractors said they got on well with permanent staff, disproving to some extent the idea that resident operators are envious of the earning power of the contractor.

However, about half of the respondents criticised permanent staff — shift leaders in particular — for saddling them with most of the menial tasks.

Asked about the qualities needed to be a contractor, they came up with such replies as: leadership, good appearance, self-reliance, honesty, integrity and "warm and breathing and with an IQ of over 100."

COMPUTER-AIDED PRINTING AND PUBLISHING CONFERENCE

September 9-10, 1980, London, Royal Lancaster Hotel
Conference Chairman: Gilbert A. Smith
Joint Conference Secretaries: S. Chomet, University of London King's College
N. J. Benwell, Cranfield Institute of Technology
Technical Adviser: J. F. Slater

DAY ONE

1. INTRODUCTION BY THE CHAIRMAN, Gilbert A. Smith.
2. FUNDAMENTALS
3. TYPESETTING MACHINES
4. KEYBOARD TO GALLEY

DAY TWO

5. AREA COMPOSITION
6. USERS' EXPERIENCE
7. TYPESETTER AND PUBLISHER
8. FUTURE DEVELOPMENTS
9. CONCLUDING SESSION

SPEAKERS

GILBERT A. SMITH, Chairman of the Council, Institute of Printing, and Secretary-General of Eurographic.
JOHN W. BIRKENSHAW, Composition Project
CLIVE BRADLEY, Secretary, Publishers Association.
ROY BREWER, Printing and Publishing Consultant and former Editor of British Printer.
MICHAEL J. L. DANIELS, Managing Director, Information International Graphics Ltd.
W. HUNTER GEDDES, Managing Director,
DAVID GORDON, Production Director, The Economist.
BRYAN M. LEES, Senior Sales Engineer, Ferranti Computer Systems Ltd.
BRIAN MULHOLLAND, Deputy Managing Director, Sheffra Graphics Ltd.
DOUGAL NISBET-SMITH, Managing Director, Times Newspapers Limited.
DAVID OWEN, Member of the Design Team for the Ferranti GS7 System.
ARTHUR H. PHILLIPS, Formerly Deputy Director, Division of Technical Services, Her Majesty's Stationery Office.
TOM PINDAR, Managing Director, Filmtype Ltd.
CHRISTOPHER SMITH, UK Sales Manager, Linotype Paul Ltd.
JEFF THOMAS, Principal Consultant, Logica Ltd.
JOE Wade, General Secretary, National Graphical Association.

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SOFTWARE FILE

Banking 'totally dependent' on DP

BANKING in the 1980s is overwhelmingly dependent on computer power, and a big clearing bank's lifeline is its computer network. In the heart of Lloyds Bank's computer centre, Samson House on the south side of Blackfriars Bridge in Southwark is a small room from which the bank's major networks are controlled.

The most important is the branch network and 70% of this is normally supported by one IBM 370/168. The machine stores the daily memo file for the Cashpoint cash dispenser network, which is updated overnight with the close-of-day balance of each account.

The remaining 30% of the network is on a second 370/168, together with the overseas regional branch network plus all Lloyds traffic on the Swift interbank funds transfer network.

The third network is what Lloyds calls the system shop network, a facility for divisions of the bank to get access to a computer for their own work.

Users include the planning section, investment appraisal, the leasing department, the inspection department and others, and the software being used is IBM's VSPC, virtual storage personal computing. "We don't allow people to buy their own minis," comments management services manager Jack Dunn.

Since IBM has enhanced the conversational monitor system, CMS, under the VM/370 operating system, many people regard this as a much easier to use and more attractive personal computing facility than VSPC.

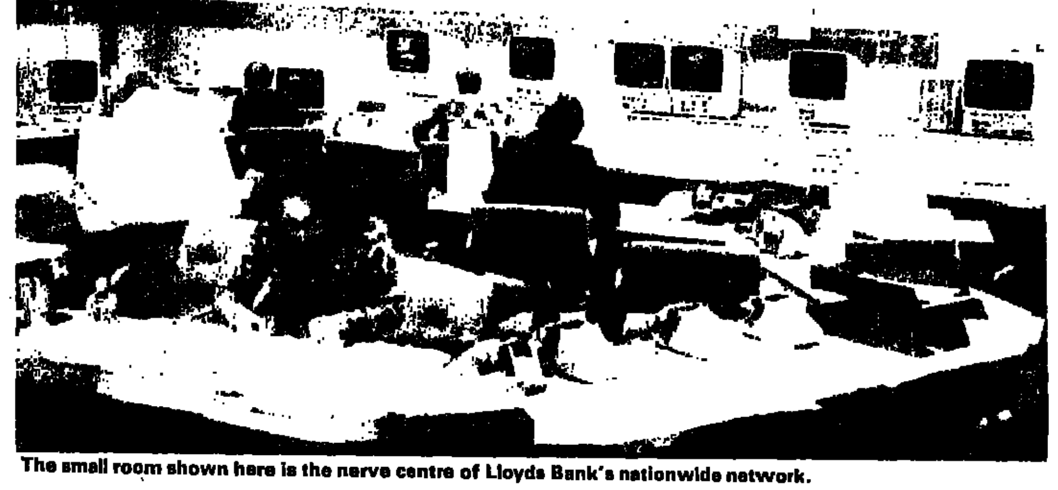
Lloyds has protagonists for and against VM, but does not yet consider putting the operating system up to be worth the effort.

Although Lloyds is often seen as a 100% IBM shop, there is a fair amount of non-IBM equipment at Samson House, notably the Medius network monitoring system from International Aeradio.

Within the network control centre, the line control section looks after arranging for repair of faults, and also gives guidance in use of the network, acting as the liaison point for branches and users.

The TP control section is responsible for monitoring the TP programs to ensure that they are running efficiently, that there is no interference between applications and to ensure network recovery after failures.

Lloyds is running both Release 1 and Release two of the advanced communication function/network control program which is part of IBM's SNA portfolio.


The small room shown here is the nerve centre of Lloyds Bank's nationwide network.

Set theory way to info management

THE only way to build an information management system as opposed to a database management system is to implement a complete separation of the logical and the physical views of the database. The way to achieve this is to apply modern set theory.

So says Dave Childs of Set-Theoretic Information Systems, a company established in 1979 with the purpose of developing a back-end set processor.

Sets have been defined as an arbitary collection of "definite and distinct" objects, a definition which was soon rejected as too general, but no successful precise definition has been agreed.

Speaking at the Online Future Systems Forum last week, Childs underlined the inadequacies of present day database management systems; the definition of data models — Codasyl, hierarchical, relational and so forth — were really different user views or the data. Normally the user was confined to one model, one organisation and one access method.

"For a true information management system we want to be able to combine any model and any organisation with any access method.

"Information management should be in the hands of the user, database management should be confined to logical organisation, physical organisation should be under storage management, with system performance management optimising use of multiple access methods, and handling network communication.

"Only then do you have a truly data independent system," said Childs. "Set processing recognises data organisations as mathematical sets, with every disc, tape and file a recognisable set. And the basic set operations are combined to perform the familar database operations.

"Data independence is achieved by allowing only well-defined set expressions to cross the boundaries between the logical and the physical. The set processor can be a front end, can be host resident, or can be a back end processor, where the host becomes the logical user.

"Multiple hosts can share a back end set processor; and set processors can be linked to build distributed databases."

Childs believes that the set processor could be designed on a single chip and his company hopes to have its first back end set processor on the market next year.

Saving time, money

SAVINGS in design time and development costs are quoted for the mathematical modelling and simulation techniques developed by Frazer-Nash of Hampton Wick, Kingston-upon-Thames, Surrey.

Getting most from PoS

FROM NCR is a package which allows retailers to extract data for stock control, ordering and delivery processing, item sales and stock reporting, department sales, stock margin reporting, cashier performance and store accounting in-house from PoS systems.

Called Ipis, it runs on NCR Series 1 processors and is operated interactively via video terminals. Operation is simplified via the use of menus.

NCR says the package will enable retailers to improve stock turn and improve the flow of management information. It is available for a single licence fee of about £10,000.

Easy-to-use inquiry and reporting pack

AN ENGLISH language inquiry and reporting package that is said to allow users to write their own programs with little or no computer training or knowledge, is due for launch by the National Computing Centre in the autumn.

Called Usertab, it was written following feedback from professional people, such as accountants, and an NCC spokesman said it would also be suitable for installations with many user departments.

It was written for NCC by FSS who provided the programming effort under contract. Initially Usertab will be available for IBM 360 and 370 as well as ICL 1900 and 2000 sites which do not use VME/B. A Level 66 version, planned for release in autumn, is being written in conjunction with Honeywell.

The spokesman added that Usertab should also work on IBM compatible kit such as that made by Amdahl, and that initial marketing effort would be aimed at the existing 1,000-plus Filetab installations.

The principal features of Usertab include:

1. automatic formatting of up to 23 reports from one pass of data files (each report may include its own integral SORT);
2. condition testing and calculation with automatic creation of new data items;
3. optional creation of an inquiry statistic report which allows video users to print reports selectively after browsing through a file: and
4. optional multi-level PASSWORD protection.

Three-year plan

A THREE year changeover to Cincom's Total database management system is planned by Associated Book Publishers. Included in the £30,000 deal is the Task online database inquiry system. It will all run on an NCR based Criterion system.

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Data General

PEOPLE and EVENTS

Ex-Govt thinker joins Urwick

FOR two years a member of the Government Think Tank, Carolyn Hayman has now joined the systems research team at Urwick Nexos.

Hayman (right) specialised in the applications of microelectronics while on the Think Tank, and her work there included studies into their social and employment impact, on the impact of technological change on employment, and on education and training in relation to industrial performance.

The team of which she is a member at Urwick Nexos is developing methodologies for analysing business systems and office-based activity. She has also been invited to give evidence to the *House of Lords* Select Committee on Unemployment, which is considering the effect that microelectronic technology will have on the level of employment.

Stephen Madden has been appointed hotel support representative with Monotype communications hotel systems division in Leeds. His last job was computer training co-ordinator with Trust House Forte.

Jerry Causley, previously UK sales director of CMC, has been appointed managing director of CMC Leasings. **Carl Heppell**, head of customer service at CMC, and **Richard Gamble**, CMC's chief financial officer, have been appointed to the board of CMC Leasings.

Dick Barnes, formerly marketing manager of the Co-op's computer group, has been promoted to general manager and head of the group.

Trevor Wells, customer engineer with Redifon Computers' South-East branch, has been promoted to customer services supervisor for the branch.

Francis Hardie of Redifon Computers has been promoted from area sales manager for the Southern branch to branch manager for the Midlands branch. **Michael Draper** has joined Redifon as area sales manager for the central accounts South of England branch, from Four Phase Systems where he was a regional sales manager.

Formerly an account manager with Nixdorf in Australia, **Barry Lynch** has become senior territory manager for central accounts North of England branch, with Redifon. **Peter Fairweather**, who was until recently a customer engineer with ICL, has joined Redifon as engineering lecturer.

John Lambert has become finance director and company secretary at Memorex, after six years with the P & O group as group management accountant and finance director of the energy division.

Marketing support man for Honeywell division

HONEYWELL has appointed a director of marketing operations in its general systems division. He is **Peter Smith**, who until recently was NCR's sales manager for the industrial sector in South-East England.

Most of Smith's career has been spent with NCR, and it has included some time in Lagos as regional sales manager for Nigeria.

He was responsible for launching the 8100 range of low-cost interactive systems, and in his most recent appointment he set up the sales team for his sector.

At Honeywell, he will be heading a department providing product and applications marketing support for the DPS 4 business computer and Level 64/DPS medium system line.

Richard Pawson, until recently editor of Printout, has joined Microact as marketing manager. He will continue to write for Printout, a magazine for Pet users, in his spare time.

Robert Anderson, who has joined GST Computer Systems as a senior consultant, was previously a consultant in the basic software division of Logica's communications group.

Alan Fagg is the manager of Oceanic's newly-formed graphics system division; he was a sales director with Engineering Computer Services.

Spike Kasper, general manager of Vydec UK, has been appointed managing director.

Robert Dewar has joined the board of the CAP-CPP group as financial director from the Talbex group, of which he was also financial director.

David King is sales manager, financial communications systems with Arbat. His last job was with Case.

Ivor Kelly has become PMS product manager of Ferranti's Wythenshawe division. Previously he was with British Steel, responsible for all process control computers in the Teesside division.

Gordon Rhind has joined Memorex as a salesman in the Northern office. Previously he was with DML.

Westward expansion at PRCS

Amey

Moffatt

A BRISTOL office has been opened by Planning Research Computer Systems and its manager is **Pam Amey**, until recently a projects manager with Thomas Cook in Peterborough. The address of the office is 36 Kings Street, Bristol.

At the Wokingham, Berks centre of PRCS, **Ron Moffatt** has been appointed programming manager. Formerly he was systems manager for mini systems with Rank Xerox at Slough.

PoS advice from Eric Foster

A SPECIALISED service offering advice on terminal systems to the retail trade and users of these systems is provided by Spectra Services, recently set up by Eric Foster.

Foster had been with ICL since 1971, when he joined from Pitney Bowes with the [illegible] starting ICL off in the point of sale [illegible]. He was project manager for the 9800 [illegible] during its development and launch, and [illegible] has been manager of the application [illegible] group in ICL's [illegible] division.

The address of Spectra Services is Keyersbridge Cottages, Wokingham [illegible], Hurst, Berks RG10 0R4. Tel: 0734 346[illegible]

Ian Andrews, business systems manager of Allan D'Morias and Associates, has been appointed technical director of the London office. **Bob Pierce** has joined the company as sales consultant for turnkey systems, from Computel where he was a sales consultant. **Jack Jamieson**, previously a territory manager in Scotland with Burroughs, has become ADM's minicomputer division manager, responsible for turnkey systems in Scotland.

Phil Thompson has joined Monotype Communications as sales analyst, from Oyez Computers where he was a sales consultant. **Lucy Ereira**, previously a word processing operator with Chemical Systems International and Lloyds Register of Shipping, has become market support representative with Monotype, and **Edward Croucher**, who was formerly a programmer with General Signal, has become project leader, communications, with Monotype.

Tony Bomber has become marketing manager with Infotech.

Michael Harris has become managing director of MAI, after eleven years at Univac where he was manager responsible for sales and support to banks, insurance companies, building societies, commodity brokers and finance houses.

George Hobart, until recently a director of Slinn Systems and of Law Data Systems, has been appointed general sales manager of Scope Data Systems.

Dr Emma Bird, a behavioural scientist who was formerly with Communications, Studies and Planning Ltd, has joined the systems research group at Urwick Nexos.

Richard Healey has [illegible] appointed commercial dir[illegible] Crouzet UK. **Michael F[illegible]** national sales manager, [illegible] Manchester, was formerly [illegible] manager of the industrial [illegible] distributors W. M. Shake[illegible] Clarke has joined Crouzet [illegible] board of the company's [illegible] tributor, TCM Controls – [illegible] comes sales manager for [illegible]

Dr Robert Penn has been [illegible] to the newly created post [illegible] executive vice-president and [illegible] operating officer of the US [illegible] American Microsystems [illegible]. He is replaced as manager [illegible] custom, customer designed [illegible] group by Richard Thomas [illegible] responsibilities as manager [illegible] customer designed product [illegible] are taken over by Edward [illegible]

Jim Gilbey, previously [illegible] Mainline, has joined Crellon [illegible] systems as franchise manager [illegible] Zilog and RCA; and Peter [illegible] has become Motorola [illegible] manager with Crellon. He [illegible] several years at Colchester [illegible] lecturing in electronics.

Ian Makepiece has been app[illegible] sales manager of Data [illegible] Equipment's new end user [illegible] operation.

Commander David [illegible] has become senior sales executive [illegible] Ferranti's naval sales team [illegible] ponsibilities cover the [illegible] Europe. He was in the Navy [illegible] years, and commanded the [illegible] Thames, Dan and Yarmouth.

SOCCER

THE draw for the second round of the Summer Computer League Cup is as follows:

NCR 'A' v Kingston's
Forest v Jadpu 'A'
BAC v Ashbourne
Gryphon v Post Office
Computer Weekly v Comshare
NCR 'B' v Jadpu 'B'
Ventek v SIL
SIA v Logica

● There are an awful lot of league match results which haven't been reported to us. Would the respective team captains please put this right!

DIARY

JULY 21
Solution of linear programming problems with staircase structure. Prof O. B. Madsen. BCS Mathematical Programming Study Group. London School of Economics, London WC2. 6.30.

JULY 24
The Talisman operating control system. Tony Smith. BCS PL/I group. Room A506, London School of Economics, London WC2. 6.00.

SEPTEMBER 1-2
Microprocessor workshop. Computer Lab, University of Liverpool.

SEPTEMBER 3-5
Logic and microprocessor system design course. Computer Lab, University of Liverpool.

SEPTEMBER [illegible]
Micad 80, CAD conference. Micado, Paris.

SEPTEMBER 24
New technologies for information retrieval. BCS Information Retrieval Group. London.

NOVEMBER 6-7
Minis, micros and terminals, conference. BCS/IIS. Manchester.

NOVEMBER 14-16
More than just techniques, conference. British Production and Inventory Control Society. Blackpool.

DECEMBER 16
Computers in museums. BCS Information Retrieval Group. London.

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Weather service for yacht clubs

TED HEATH was present at the launch by Nexos and the Meteorological Office of a facsimile-based weather forecasting service aimed at yacht clubs. The Met Office now offers a standard basic service for £100 a month which consists of sending a UK weather map with general and local comments to subscribers twice a day on a Nexos 6400 high speed analogue facsimile transceiver which rents for £90 a month.

Heath was sceptical about clubs' willingness to pay this much, but his interest was roused at the suggestion that later enhancements could include retransmission by radio to a shipboard unit costing about £600.

● Our picture shows a weather map being received at a sailing club from the Bracknell Centre.

Work-for-disabled group seeks help

HELP is needed to keep a group of disabled data prep operators in business. Set up three years ago as a limited company, the group aimed to succeed in normal commercial operation at the same time as providing employment for physically handicapped and able-bodied people together in computing.

Its name, Emphatic Computer Services, is an acronym of this aim. For a time, the company did well.

"However, our ambition has not been matched by our business acumen," explained one of the three founders, Ron Potter, formerly a service engineer for Kode. "And we are in danger of sinking without trace.

"We had a steady key-to-paper-tape data preparation contract, but the company has now moved production abroad and we have lost it. We are losing our temporary office because it is to be redeveloped and we cannot afford the going rate for office space.

"We are in the process of gaining charitable status so that we can attract direct aid and we need help with an office, money, management or marketing skills, equipment such as key-to-disc systems, or anything anyone can offer.

"We would like to break into programming. We have a Cobol video training course that came from the US via Vauxhall Motors — we use this for introductory training at the Young Disabled Unit at Stoke Mandeville Hospital, where the other directors, Derek Nicholson and Bob Hunter, who are both paraplegic, spend much of their time. We could do with some advice on how to get the work, and price it."

From the introductory course, trainees go on to Queen Elizabeth College in Leatherhead, which offers full instruction sponsored by ICL and the Manpower Services Commission (CW, June 19).

But then they cannot find jobs, which is the situation Derek Nicholson found when he first joined the British Computer Society Specialist Group for the Disabled after training as a programmer — and is what prompted him to set up Emphatic.

Emphatic Computer Services can be contacted at St Andrews Way Industrial Estate, Bicester Road, Aylesbury, Bucks. Telephone Aylesbury (0296) 27883.

Olivetti adds to bottom end

OLIVETTI Computers has added a bottom end model to its OC 5300 line of medium scale IBM-compatible mainframes. The OC 5300 line comes from IPL Systems in which Olivetti now has a 33% stake. According to the Italian weekly computer paper Linea EDP, the OC 5310 can have up to four megabytes of main memory. It is aimed at IBM's new 4331 Model Group 2 and is field-upgradable to the 5320 and 5330.

Call to halt dumping of video kit

UK audio-visual manufacturers are involved in a "trade war" with Far East companies, and it has already cost the UK industry some 30,000 jobs, according to figures from the electricians' union, the EETPU.

To prevent further losses a UK delegation last week lobbied the EEC Commission in Brussels, seeking import controls on audio-visual equipment from Far Eastern countries.

The joint union/manufacturer delegation, including representatives from EETPU, ASTMS, TGWU, Philips, Thorn and Rank Toshiba, called for immediate controls on imports from Thailand.

It was the proposed import of 200,000 monochrome television sets from Thailand which prompted EETPU national officer Roy Sanderson to form the delegation.

Sanderson commented, "We told the commission that the UK industry needs time to restructure and become more competitive."

Honeywell and CII-HB compete in SE Asia

AN INTERESTING situation has arisen in South East Asia, with Honeywell and CII-Honeywell Bull going into open competition with each other in Singapore and Malaysia.

Reason for the American and the Franco-American companies preparing to do battle with each other, often with the same products, is that all the territories apart from Hong Kong were "unspecified" territories under the agreement which carved up the world market between the two when CII-Honeywell Bull was formed.

Asian Computer Monthly quotes Honeywell vice-president and general manager for international operations, Duke Stirling, saying that under US and French law the two companies cannot be partners in territories unspecified under the agreement.

Honeywell is established in Hong Kong and is in process of setting up operations in Singapore and Taiwan. Plans are also under way to open in Malaysia, Indonesia, Thailand and the Philippines.

CII-HB appears to have the edge in China and has appointed Hong Kong firm Sun Hung Kai (China) Ltd as its agent there. CII-HB's expansion plans could embrace Thailand, the Philippines and Hong Kong.

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Computer Weekly is holding its fifth annual Ball. Last year nearly 700 people — attended what has come to be regarded as the computer industry's big night out.

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MICRO NEWS by Eileen Stainer

IBM building small Josephson system

RESEARCH by IBM into Josephson high speed LSI technology has progressed to such a degree since it was announced last year (CW, May 24, 1979) that the design and construction of a small prototype computer system is currently under way. IBM has published a special issue of its research and development journal which describes the current status of its research project on Josephson computer technology.

Scientists at Zurich, East Fishkill and the Thomas J. Watson Research Centre at Yorktown Heights, New York are involved in the present programme.

Among the topics discussed are materials and process studies, logic and memory circuit design, modelling, fabrication, testing and packaging.

Once the development is completed the Josephson devices will have the potential to outperform the current silicon technology and another potential future technology, gallium arsenide, in both speed and power factors.

During research, a feasibility study was carried out on a 16K-bit RAM using 4,500 Josephson junctions arranged on a 40 millimetres square chip.

Measured results included an access time of 10 nanoseconds with a power consumption of 40 microwatts. These compare with 200 nanoseconds access time and 475 milliwatt power consumption values of current silicon-based 16K static RAMs.

The Josephson devices developed in the research are fabricated similarly to semiconductor LSI chips, using photo, electron and X-ray lithography. Their packaging has to cope with an operational temperature four degrees above Absolute Zero temperature (—273.16°C). This factor enhances the packaging techniques as bulky cooling structures are not needed to remove the heat.

Scientists are working towards a hypothetical mainframe capable of executing 250 million instructions per second with a main RAM capacity of 64 mbytes. This could produce mainframes with computing rates 10 to 100 times higher than that of an IBM 3033 mainframe system.

Further information can be obtained from the Information department of IBM (UK) Ltd (CW) PO Box 41, North Harbour (Baltic House), Portsmouth PO6 3AU.

Threat to US personal market

JAPANESE personal computers are expected to capture a third to a half of the US personal computer market within the next five years. Recent competitors Hitachi, Matsushita, NEC, Oki Electric and Sharp have already relieved the CBM Pet from its Number 1 position in the Japanese market.

The reason given for Commodore's fall from 50% to 15%, is that Japanese models are lower priced at $780 to $1,200. Hitachi's Basic Master III and Oki's IF800 are said to be technically advanced compared to the US personal computers, while Sharp's PC 1211 is also portable (CW, July 3). Most Japanese models have colour displays.

Matsushita hopes to market its Panasonic model through US dealers and NEC plans to introduce its PC8001 on to the US market. Ironically, important design work of some of the new Japanese models was carried out by Microsoft which designed software for some of the US models.

Games for Sinclair

SOFTWARE for the Sinclair ZX80 is available from mail order company, Econosoft, for £5 a cassette, inclusive of VAT, postage and packing, and operating instructions. The first product is a C12 cassette containing four games programs.

Second volume

VOLUME 2 of the Manual of Microcomputers is available from Mackintosh Publications (CW), Napier Road, Luton, LU1 1RG, for £75. It collates past events in microelectronics that were first recorded in the newsletter Microcomputer Analysis.

Harris micro offshoot to make gallium chips

HARRIS is to form a semiconductor company, Harris Microwave Semiconductors, to produce integrated circuits based on gallium arsenide technology.

This follows Fujitsu's announcement that it has successfully tested high electron mobility transistors using gallium arsenide and gallium-aluminium arsenide (CW, June 26).

Six Hewlett-Packard engineers have left the company to form the Harris subsidiary, which is to be based in Mountainview, California.

Harris is also developing a CMOS version of Intel's 16-bit 8086 using a technology of a double level of polycrystalline silicon on three micron geometry. The device will have a power consumption of 1,000 times less than the NMOS version.

A similar study is being carried out with the 8748, a version of the 8048 single chip 8-bit microcomputer. Intel says it is shipping 100,000 8048s a month.

Digital Equipment has signed an agreement with Harris to produce a CMOS version of the LSI-11 16-bit microcomputer board. DEC is to design it and Harris will manufacture it for DEC's use only.

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TIM PALMER AND KEITH JONES REPORT ON THE FUTURE SYSTEMS FORUM IN LONDON WHERE LEADING INDUSTRY FIGURES ANALYSED INFORMATION SYSTEMS DEVELOPMENT, AND TRIED TO FORECAST THE TRENDS OF THE 80s

'Three more IBM series to be launched by 1980'

THREE more IBM series beyond the E and H-series have been identified by Bob Fertig of Advanced Computer Techniques in New York, for announcement between 1982 and 1986.

The G-series, offering 1.5 to 10 MIPS and costing between $250,000 and $1.5 million, provides the growth path for the 4300s, he told the Future Systems forum in London.

"But the G-series may never appear, because as products like the H-series are delayed, so they start bumping up against the planned next generation product, and a further extension of the 4300 line, beyond the 4341 Model Group 2, expected later this year, might fill the gap until the Olympia series turns up to replace the 4300 in 1984-85."

Fertig expects the Olympia series to be in the 0.3 to 1.7 MIPS power range and to cost between $40,000 and $150,000. Succeeding and extending the power of the H-series, he expects the Sierra series, a range of supercomputers in the 10 to 50 MIPS range and costing between $1.5 million and $5.6 million.

These predictions are based on leaks of what IBM is currently working on and things can change substantially between now and the planned launch dates. Prices are ACT forecasts.

Fertig expects the H-series to cover the 3 to 27 MIPS range, with prices from $1 million to $6 million. He also sees it as a modular mix and match system, with the 27 MIPS Sentinel system having four processors and two System Control Units.

The Sentinel model he sees as being configurable for example with two System Control Units, one supporting two processors and the other one for a 20 to 22 MIPS rating.

Some people still doubt the existence of the H-series, but apart from IBM leaks, Fertig sees unanswerable reasons for its necessity, among them the inadequacies of 370 architecture, its complexity from the user viewpoint, the threat from the plug-compatible manufacturers who, he says, now have 10% of the market for machines in the 158 and above class, deficiencies in 370 data security and its high manufacturing and maintenance costs.

Reviewing IBM's prospects, Fertig was doubtful that the company could maintain a 15% turnover and profit increase.

"To do so would require DPD and GSD rentals to rise 8% a year, DPD and GSD sales to rise 20% a year — and that's unrealistic, office products to rise 25% a year — and that is possible, because Wang is growing at 80% a year, so IBM should be able to manage half of that in word processing. And it requires services to rise 30% a year. Last year it was 38%. But I expect the growth rate to fall to about 13% overall.

"IBM will spend $1,700 million on research and development this year, which is more than the total of most of its competitors combined. But much of that is insurance, developing alternative products and products it may need but may not. If the 8100 does not succeed, then the 4300 or the System 38 will."

Fertig expects IBM to form a holding company with separate subsidiaries, not all wholly-owned, within the next 18 months.

He also thinks that IBM's scare-mongering about the threat from the Japanese is exaggerated.

"The Japanese threat is not serious if IBM is innovative — and despite its complaints, it helped the Japanese last year when it bought 30% of the production of Silicon Valley in things like 16K memory chips, causing a shortage and forcing other manufacturers to turn to the Japanese to fill the gap."

Preview of H-series

OUTLINING some of the advances he expected in the forthcoming H, or Adirondack, series, Bob Fertig said he expected it would follow System 38 in providing substantial improvements in functionality, overcoming at last the constrictions of 360-370 architecture.

It would have a wider address space, probably 32 bits, giving direct addressing of up to four gigabytres, and would feature built-in data security, a key weakness in the 370 design.

It should provide multiple ways of viewing logical files, as with the relational database on the System 38, and would eliminate system generation requirements which waste resources and staff time and also job control languages.

Other features that Fertig looked for included a high level instruction set, self-diagnosis, and improved reliability and maintainability.

As to the problem of IMS Fertig considered that it would continue because 2,500 of IBM's best customers are using it. But, as others have suggested, it would be extended and enhanced with relational capabilities.

The first machine in the series, he forecast, would appear early next year. Codenamed Iroquois II, it could appear as the 3035 and would be a 12 MIP machine made up of an 8 MIP master processor and 4 MIP slave processor.

The two processors, he said, would be combined through a System Control Unit, and part of MVS would go into an Execute Control Program, offloading input-output into a separate processor.

"If you examine a 158 in a typical database communication application you find that in many cases 60% to 70% of available CPU cycles are used just to handle I/O. By offloading this on to a separate processor with virtual paging store you relieve the prime processors to do more useful work," commented Fertig.

He expected the H machines to offer 2.5 times as many MIPS per dollar as the 303X — not as good as the 4300 because at the top end, high-speed technology remains disproportionately more expensive in LSI.

Fertig looks for about 16 megabytes of main memory on the Iroquois II, priced at about $25,000 per megabyte in the US. He believed that the single processor Iroquois I had been killed.

Possible new suitors for Amdahl

IBM will announce a facility enabling multiple operating systems to run under MVS by the end of the year and the skeletal operating, VM, can then be scrapped. There will be a common JCL for MVS and DOS/VSE and within five years DOS/VSE will be phased out.

These surprisng predictions were made by John Curran, product marketing director of National Advanced Systems, in his paper on future directions in the plug compatible industry.

Curran also envisaged the need for third party software maintenance companies to help out smaller suppliers of IBM compatible processors, but he dismissed suggestions that PCMs would be put out of business by IBM microcoding more of its systems software. He pointed out that the real effort and cost in microcode development was in identifying those parts of software that were suitable for microcoding and that this task was borne only by IBM.

Commenting on the failure of the Amdahl and Storage Technology merger plans, Bob Fertig, of ACT, lined up three other possible suitors for Amdahl Control Data, the oil giant Exxon, and AT&T.

Fertig saw Amdahl complementing Control Data's other activities such as its IBM-compatible peripherals business. AT&T might be interested, he suggested, because it already accounted for up to 15% of installed Amdahl machines, while Exxon had the money.

However, Ulrich Weil, of security analysts Morgan Stanley, disagreed totally. He felt certain that Control Data had no wish to get back into large scale systems, while AT&T and Exxon would not want to get loaded with Amdahl's problems.

'4300 a good machine — if you don't look on it as a mini or a maxi'

THE 4300 is a good machine if it is accepted for what it is, and is not regarded as a minicomputer because of its low cost, or a maxi computer because of its raw power rating.

That was the view of one of the first users, Dave Smith, consultant in computer technology and training at Exxon, which has installed 12 4331s.

"To our minicomputer people it looked more like a batch than an interactive machine. People used to small 360s and bottom-end 370s thought it was great, while large systems people felt constricted because the operating system takes a megabyte and we only had one megabyte to start with.

"After we had had some experience with it, we sent a list of our comments on the system to IBM, and they were not too pleased to start with. But when they checked with other users, they found them saying the same things."

The modifications had been incorporated into the 4331 Model Group 2 and the problems were resolved, he said.

"We find that under VM the 4331 supports eight to 12 users with reasonable response time. Under DOS/VSE it is equivalent to a 370/138 in batch applications but under OS/VS1 it is equivalent only to a 135 in batch. If users can wait for the 3775 discs on a 4331-2 VS1 will be much better."

One purpose of the early evaluation exercise was to find out whether two juniors, one adviser, and one experienced person could handle the machine.

"With VM/CMS, we found that it was easy, it worked and the juniors could handle it. DOS/VSE with CICS was much harder and required experts.

"But it and the IPO/E should be much better in the next release. The IPO/E will improve and be extended upwards and will need fewer people to bring the system up and manage it.

"With VS1 we found it necessary to bring it up under VM, which uses up the capacity of the machine. But VS1 is being stabilised rather than developed further. There will be no functional enhancements, but I expect support for new devices where these are essential.

"DOS/VSE is already visibly improved, and it looks like a solid system if you run a batch shop. VM and CMS are being developed further and are good for an interactive system with some batch. If you want to run DOS/VSE and CICS under VM, you need a 4331-2 or a 4341."

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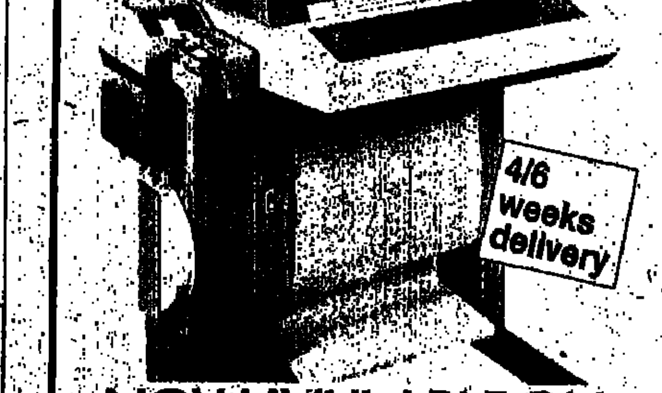

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ADVANCED FILE DESIGN—Part 14

Problem of file security

by OWEN HANSON and NORMAN REVELL

IN this part we shall look at some of the problems of file security that are unique in online and database systems. Security measures for individual files such as checkpoints, batch-controls and so on were discussed and analysed in Basic File Design and most of these methods are just as relevant to online and database systems which make use of them.

Because of the very nature of online systems, however, some of the batch totalling methods which provide a very effective control of a batch of transactions as they pass through the steps of an application, cannot be used for online systems, or online database systems, where each transaction stands alone and is processed in its entirety.

It should also be noted that because the files of these systems will be available for much longer on average than those of a batch system which are just mounted when required, there is greater potential for error.

A type of problem which can sometimes happen is where an error occurs, in entering a transaction for example, which is not detected at the time, and may only come to light weeks or even months later, making detection of the "bug" which caused it virtually impossible.

In such a case the organisation may have to live with this known error, taking appropriate temporary measure to correct it until its true source can be detected. Database systems can pose their own special problems due to the more complex nature of the physical files where indices and pointers may be lost or corrupted. We shall now examine some common problems and their possible solutions.

The pipeline problem

If an active online or database system fails for any reason such as a hardware or software error then it is possible that several transactions may have been at various stages in updating the files. On restarting the system there is a risk that these transactions may be lost or even doubly applied.

Most online and database systems make use of a log or journal of incoming transactions as a means of recovery, since the files can be updated from a previous backup copy using this log. The log would normally be held as a serial file on tape or disc.

Even if these transactions were time-stamped on receipt it would not be possible to know which transactions had been successfully applied before the system failed, since it is possible that transactions of different priorities and different access requirements may not be processed in strict order and may overtake each other.

The only way to be absolutely certain would be to hold the time-stamp of all recent updating transactions on the file itself, so that these can be compared with the log of incoming transactions, though this assumes that no two incoming transactions would have exactly identical date and time stamps. In this way it would be possible to ascertain during reconstruction of the files which transactions had been successfully applied.

Variations of this method include the use of a unique serial number for each incoming transaction instead of a date and time stamp, and keeping a separate log of successful file update transactions instead of entering the information on the master file record, though this latter approach will have an extra overhead since it necessitates an additional file reference.

The overhead of logging transactions can be reduced by blocking the log files, though to a large extent this may negate their purpose since several transaction log records may be lost in the output buffer in the course of a system failure.

We have emphasised the problem of losing update transactions as opposed to query-type transactions, since in the latter case no threat to file or database integrity is posed by system failure, and indeed in an online environment the terminal user, knowing the system has failed may repeat that transaction anyway. If this latter action is not acceptable then the transaction log can be used to re-submit queries which were lost when the system failed.

This assumes that query transactions are logged, which is not always the case, though it is good practice since a complete picture of the system is obtained when analysing the log which is useful for performance analysis and security control purposes.

The bucket method

In many systems, update transactions are not applied immediately but are instead stored in serial files, after known as buckets, for later batch updating. This is normally done for reasons of security and performance (see Parts 12 and 13) though, of course, the major disadvantage of this approach is that query transactions will obtain an out-of-date answer.

A good example of this method is found in banking where any queries concerning account balance refer to that figure which applied at the close of business the previous day when all the update transactions were last consolidated on to the master file.

Though this approach is acceptable in some applications, in others, such as airline reservations, it is clearly not and an immediate update is required. Between these extremes a situation is possible where two buckets are used and as one is being filled with incoming transactions the other is being processed by a batch file update program or suite of programs as shown in Diagram 1.

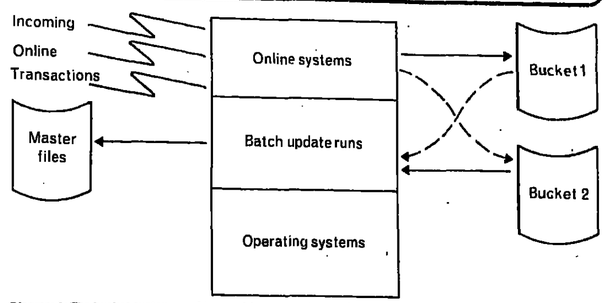

Diagram 1: The bucket system used in a multiprogramming environment.

This approach combines the security and performance benefits of batch processing with the facility to have more up-to-date information on file than with the case where the file is only updated daily when online processing has ceased. When this approach is adopted the batch processing system must be designed to finish processing a bucket of transactions before the next bucket is full.

The diagram shows this system in a multiprogramming environment, though it could equally apply to a multiprocessor environment with shared peripherals, one processor handling the online system, the other the batch system.

The size of bucket chosen is a limiting factor in determining the frequency of the batch update runs, the larger the bucket size the less frequent these runs need be. If the update run involves sequential processing of whole files then it is more efficient to have fewer runs than if skip sequential or random processing is involved.

Control of access via software

In most online and database systems there will be control of access to files via security codes. This is often at two levels, first a sign-on code and secondly passwords for certain files or parts of the database. In an online environment it is possible to link the two together by having different classes of user, identified by sign-on code, who may have different levels of access.

For example, some users may only be allowed to query parts of the files or database while others are allowed to update or add new records. This can be very useful for training purposes where a special trainee log code causes the system to simulate the appropriate responses while taking no action.

If a Codasyl-based DBMS is being used then there is scope for security control via the sub-schema, each user program being given its own sub-set of the entire database which it is allowed to process.

Catastrophic failures

Catastrophic failures are those where it is impossible to continue processing by going back to a previous version of the files and applying the transactions again as described above. Any system from a single random or indexed file to a complex database may be rebuilt from a serial dump of the records, and indeed this reorganisation is often performed on a scheduled basis for reasons of performance and efficiency.

The main problem in being forced to reorganise because of failure is the time taken during which the system will not be available for use.

An interesting practical definition of what constitutes a very large database, VLDB, has been given as "a database of such a size that it cannot be reorganised in a single weekend". The practical implications of this definition should be immediately obvious to the reader. One approach is to break down such a database into more manageable segments.

A way of making catastrophic failures less likely is to have a regular procedure of examining and checking file contents either manually or by special housekeeping programs. One authority on the subject has advocated the design of a file-vet program for every master file when the file is first designed. This principle can be extended to apply to database systems and reduce the likelihood that a number of "soft" errors can conspire over a period of time to produce catastrophic failures.

International Master David Levy demonstrates the Video Chess program he designed for the Texas Instruments TI 99/4 personal computer. It can play up to nine games at once, give action replays of single games, suggest moves to its human opponent and play a normal, aggressive or defensive game at three levels of competence. It can also be told to lose, to avoid discouraging weak players. The chess module costs £45, but the TI 99/4 costs around £1,000.

Occasion for Levy...

AN Othello program written by David Levy's London-based games software company Philidor Software came close to winning a tournament for human and computer Othello players in Evanston, Illinois. It was the only contestant to beat the world champion Irosho Inouyi, but it was only brought to peak performance in time for its last game.

The next two years should see the last human victory over Othello playing computers, according to International Master Levy.

Levy set up his company in March last year when he was asked to design a chess program for a Hong Kong games maker, Scisys-W. He has now delivered five programs, including gin rummy and a German card game called skat. More are under development.

Computer centres are sexist, says union

THE banking and finance industry discriminates against women by not encouraging them to gain the professional qualifications needed for promotion. This is the view of the Banking, Insurance and Finance Union in a pamphlet on equal opportunities for women, Women in Banking and Finance.

Discrimination, says the publication, takes place not only in branches but also at computer centres where women are often to be found working the simpler keyboard equipment, leaving the more technical and advanced work to men.

BIFU, which has a high proportion of women members — the currrent figure is 48.5% — feels so strongly about the matter that it has formed an equal opportunities committee.

In some cases, the paper goes on, discrimination starts as soon as the female employee has joined the company. "While the career-minded young man is told in his interview about opportunities for advancement and the importance of getting professional qualifications, the new female employee is often not given this valuable information."

Robots in space

ROBOTS building and working in factories in space will grow semiconductor crystals and process lunar materials. This is one of the more exotic applications that Alan Thompson, a NASA robotics researcher and editor of the US magazine Robotics Age, will describe in a four-day course called Computerised Robots to be run in London in October by the Leatherhead-based UK subsidiary of Integrated Computer Systems.

Aimed at engineers and engineering management, the £470 course covers robot technology, performance, a review of available products and some case studies.

Prams go online

PRAM manufacturers Lawrence Wilson and Son of Leeds, have ordered an NCR V-8455M system to handle online order processing, ledger and payroll applications. It will replace an NCR Century 75.

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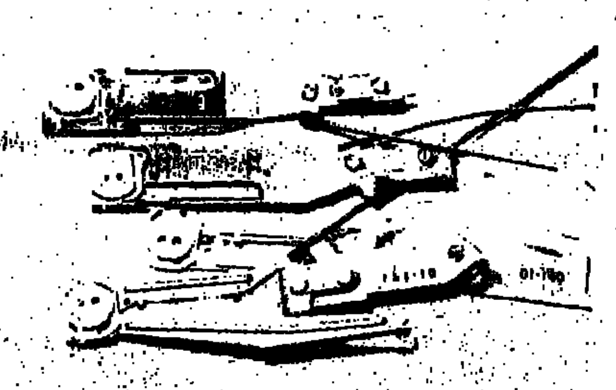

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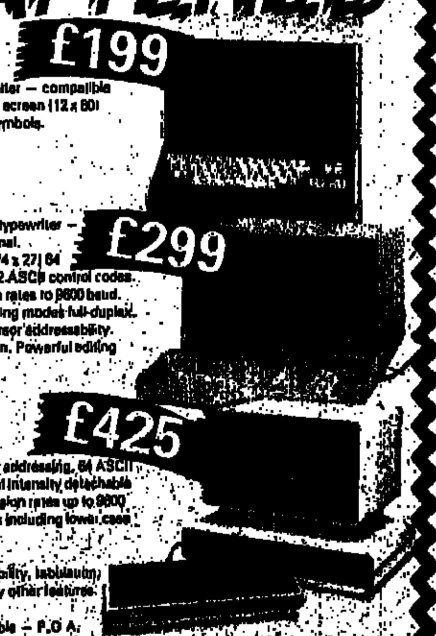

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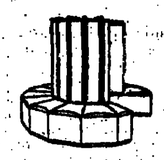

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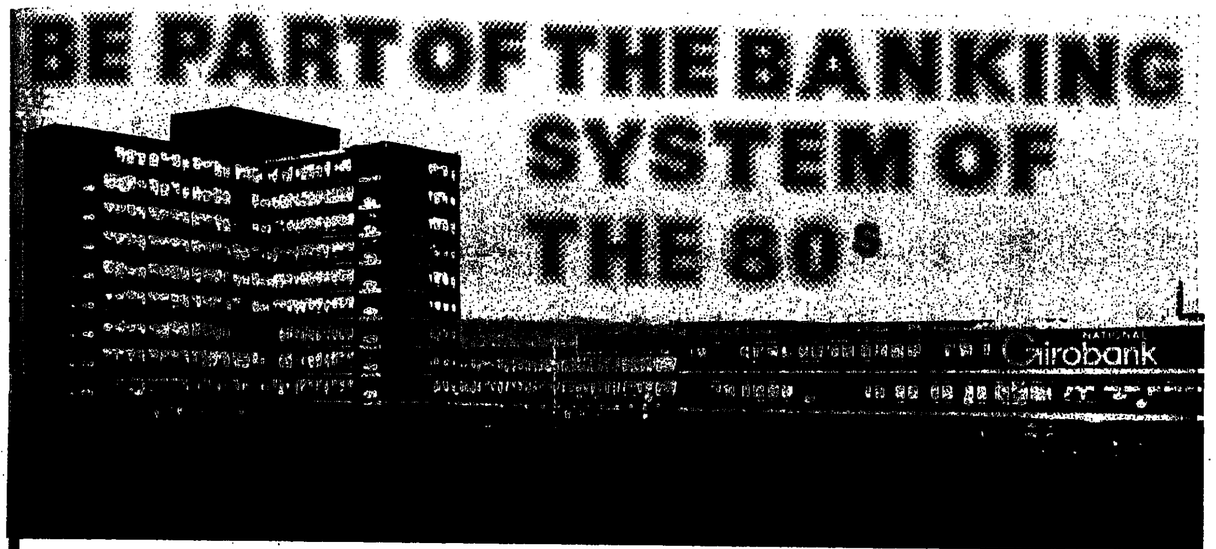

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(1986)

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(1991)

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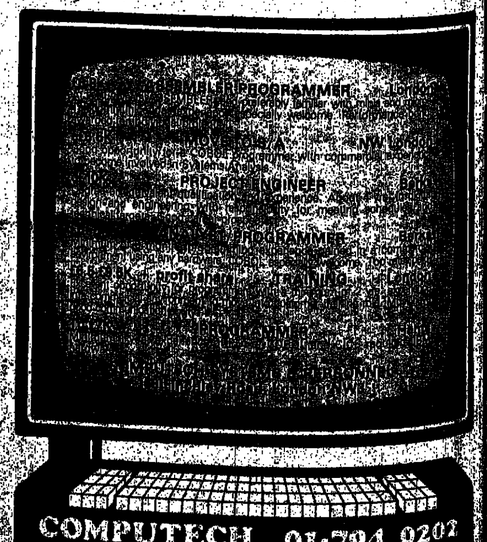

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An operator is required with around 18 months' experience of DOS POWER VS who likes to work unsupervised. Sophisticated training facilities are given. Bonuses, cheap car insurance and a sociable sports club are just a few of the many benefits that are given.
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SF11481 CW17-7-80.

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We're not looking for a budding DPMI Just someone, with ICL medium mainframe experience who would like to have the opportunity of learning all the many aspects of Data Processing.
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DOS OPERATOR
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A large food manufacturing company in Surrey are looking to recruit an operator with 12 months + experience DOS/POWER/VS, 4331 mainframe currently running under a 2-shift system.
Excellent sports facilities — swimming pool, tennis courts — subsidised bar and restaurant. Bonus scheme.
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Applications are invited for the above post. For the post of Senior Programmer/Systems Analyst (who deputises for the Manager in his absence) the successful applicant will need to have a number of years' programming experience in COBOL and a good grounding in systems development. Applicants for the post of programmer must have a minimum of two years' experience in COBOL.

The Council has a Honeywell 62/35 installation with 448K bytes of memory, three 80 MB disks and a 600 l.p.m. printer. Input is currently by card but direct data entry is envisaged. Also linked to the mainframe, giving on-line cash receipting, is an Incoterm 20/20 system.

The salary paid will be negotiable within the ranges quoted above. In addition, relocation expenses, if applicable, will be paid in accordance with the Council's scheme and housing may be provided.

Further details and an application form may be obtained from the Treasurer, Civic Offices, Civic Way, Swadlincote, Derbyshire DE11 0AH, or by telephoning Burton-on-Trent 224000 ext. 249. Please specify which post you are interested in.

Closing date for receipt of applications is the 30.7.80.

On the face of it, the contents of the average British shopping basket and the resources of one of the largest British commercial DP operations would appear to have little in common.

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You should have gained at least 6 years computing experience and have a solid background of systems design, scheduling, systems implementation and user training, in addition to some experience of project control/supervision.

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The Company's Computer Headquarters are located to the West of Birmingham City Centre and allow easy access to the Staffordshire and Worcestershire Countryside.

For further details and a confidential discussion, telephone our Advising Consultant, Rod Beeson, on 021-236 3781 (24 hour answering service) or 021-777 8743 (evenings between 7.30 and 9.00 p.m. or weekends).
Or, alternatively, write to him at the Birmingham office.

SCR

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Birmingham 021-236 3781 35-37 Great Charles Street, Queensway, Birmingham B3 3JY
Manchester 061-833 0427 Blackfriars House, The Parsonage, Manchester M3 2JA
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Computing Services Association

(2072)

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Male or female applicants should have a degree in a suitable scientific or engineering subject and a sound working knowledge of FORTRAN. Familiarity with RSX-11/M and computer graphics will be a distinct advantage.

The position is based in Central London but some travel, both in the UK and abroad, is involved.

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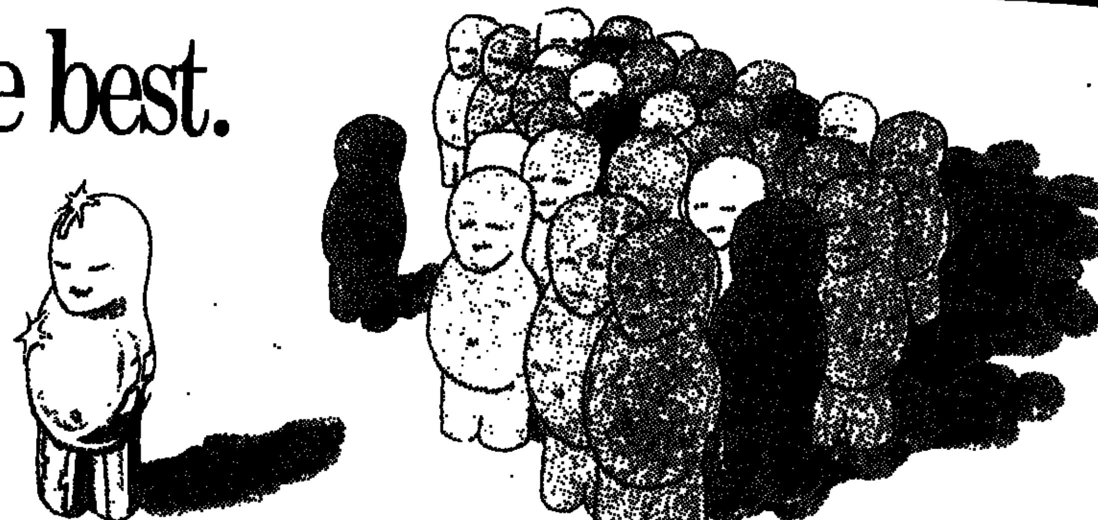

Sales Executive
LONDON & THE SOUTH WEST

We are retained by our Client, who are a fast expanding wholly British owned Company to identify a professional Sales Executive to supplement their existing team.

The Product
Offering an uncomplicated, yet sophisticated range of software products, they are unquestioned market leaders in their field, they boast unrivalled support for their packages making them probably the most flexible, adaptable and indeed expandable in the market today.

The Candidate
Ideally, they are seeking a Sales Professional who has been selling mini or mainframe computer systems, software products, or bureau services successfully in a commercial environment for the past 2/3 years. Remuneration is by way of a high basic salary plus non-returnable guarantee and commission, yielding a first year earning potential of c.£18,500 plus, together with a range of outstanding fringe benefits enhancing this executive package.

For an immediate and confidential interview where you will be supplied with full company information, Contact, Chris Fry ON 021-236 3781 (24 hour answering service) OR 021-742 1992 (evenings and weekends).
Candidates are invited to submit Curriculum Vitaes if preferred, where confidentiality is guaranteed.

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Birmingham 021-236 3781 35-37 Great Charles Street, Queensway, Birmingham B3 3JY
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The successful candidate, male or female, must have had experience in a software house and must have the ability to manage a team of software and support staff.

The ability to develop and progress contact with existing and new customers is also a prime requirement.

Our clients are able to offer the successful candidate an extremely attractive salary and company car, together with excellent fringe benefits including participation in the Company bonus scheme.

Please write in confidence to:
Mike Bosworth, TSL, 19-21 Denmark Street, Wokingham, Berkshire
or telephone (0734) 788644. (1979)

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The requirement is for COBOL/ASSEMBLER with more than 3 years' experience and with a knowledge of DOF/VE.

The work will involve approximately 50 per cent of the time at our European office so a single person is preferable. A working knowledge of German/French is required and could be a deciding factor. A mature person showing initiative and self-reliance and ability to work alone with our European user departments are the personal qualities required.

A salary of £7,600 (£8,000 maximum) is being offered with contributory pension and 3 weeks holiday.

Apply in writing to: J. R. Mallinder, Air Express International Agency Inc., 51, Staines Road West, Sunbury, Middlesex. (1908)

PROGRAMMERS
London IBM Cobol/PL1/Mark IV

Tel: Roger Barnes on 01-628 4200
4&6 Copthall Avenue, EC2R 7DA

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The London Centre now has vacancies on its lecturing staff. The work includes lecturing, tutoring, case studies, management games, computer-assisted learning, and tuition by correspondence. Lecturers spend up to half of their time teaching and the rest in preparation, research, further education, etc.

Candidates (aged at least 26) should normally have a relevant academic or professional qualification and at least 3 years' computer experience. The work demands high teaching skill, the ability to innovate and persuade experienced staff to accept new methods, techniques etc, for greater efficiency and effectiveness. Successful candidates without significant teaching experience will be given training in instructional techniques.

Appointments will normally be for a period of five years but may be less, with the possibility of extension, and in appropriate cases secondment for not less than two years may be considered.

Starting salary, according to qualifications and experience, within the range £9,380-£14,780.

CIVIL SERVICE COLLEGE

For further details and an application form (to be returned by 1 August, 1980), write to Civil Service Commission, Alencon Link, Basingstoke, Hants. RG21 1JB, or telephone Basingstoke (0256) 68551 (answering service operates outside office hours). Please quote Ref: G/6410. (1884)

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In particular, we are expecting to promote package sales here and the potential rewards in this area are considerable.

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Conditions of employment will reflect the high grade of person being sought and will be very competitive.

Please write in the first instance to:
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£7-16k

CHESHIRE & HANTS
Senior Software Designers, Team Leaders and Programmers required for major command and control project — Burroughs large system experience essential with COBOL and ALGOL for programmers. MCP/Gemcos/NDL/DMS 11 for designers. Minimum of 2 yrs. exp., locations in either the North West or the South.

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£10-15k

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City - Programmers $ Analysts

Programmers: if you have 2-3 years' programming experience in either COBOL or RPG II, and want to make a career in high-level financial systems work with a leading consultancy this is your opportunity. You will gain experience on a variety of machines, both minis and mainframes, and be able to learn new techniques such as TP and DB.

Analysts: a solid programming background is preferred, but your experience in financial systems (insurance work of especial interest) will be highly valued. Knowledge of database techniques an advantage, as is experience of project leadership.

The Company: an International Financial System, House and Consultancy with several office in London and the Home Counties, offering outstanding benefits including profit-sharing, company share scheme, free BUPA and Life Assurance and non-contributory pension scheme.

Programmers to £9k
Analysts to £13k

MINIS MIDDX. & SURREY
Knowledge of Interactive Systems, Interfaces and Interpreters at Analyst/Programmer level especially needed by manufacturer specialising in banking and small business systems. Experience on PDPs, DG or similar appropriate, Assembler plus one high level language preferred.

to £9k

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Consultants and Designers with experience in message switching gained on PDPs or similar equipment required by specialist division of major UK Systems and Software House. Consultants to be involved in pre- and post sales. Project teams based in London.

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IBM NORTH WEST
Programmers with 2 years' + COBOL (knowledge of Adabas and/or IBM T.P. a distinct advantage), are currently sought to work on a pension system involving extensive use of database and transaction processing. Relocation assistance offered.

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Regional Managers (in Systems and Operations) to investigate cost effectiveness of existing business systems, carry out O+M Analysis for new systems within existing Strategic plans. Client liaison is an important feature of the roles therefore experience in this area advantageous.

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JBA

Systems Analyst
London **£13,000 package**

Our client, a major banking organisation, is in the process of developing an International Banking System, currently using dual IBM 370's to be updated to 4300 series, with a direct link to the corporation's communications network.
Young but highly professional teams are being assigned to work on the business applications of the overall system. To join this project a minimum of three years systems or programming experience, with at least one major project from design to implementation, plus a good working knowledge of COBOL in a multi-programming environment is desirable. Some banking knowledge would be a definite advantage.
Contact: Janet Chilvers

Sales Executive
London **c. £11,000 package**

A leading British manufacturer wishes to appoint a Sales Executive to take responsibility for a territory in London selling small business computers and key-to-disk systems.
Applicants must have a proven sales record but this need not necessary be in d.p.
Experience in office machines, technical equipment, etc would be considered.
Enthusiasm, drive and the ability to close sales is of prime importance.
Contact: Jim Baker

Product Support Analysts
Berks **£7,000 – £10,000**

This well established software company, who specialise in computer performance monitoring packages and are market leaders in their field, require support analysts with proven systems programming ability.
Ideally candidates will have gained experience using assembler in a MVS or VMEB environment but a good mini systems background could be equally valuable.
Applicants must be prepared to travel within Europe and U.K. to user sites and be capable of liaising with clients in technical situations.
An excellent benefits package complements the basic salary. **Contact: Brain Postles**

Analyst Programmer
City **£9,500**

An excellent opportunity to join an international banking organisation, currently working on the development of various banking and financial applications.
A minimum of one years CICS/Assembler running in a DOS/VS environment, with exposure to VM. CMS would be ideal. They have just taken delivery of twin 4300, and you would be deeply involved with the conversion as well as the development of new systems. Successful candidates will be offered good career prospects plus all relevant benefits associated with financial institutions. **Contact: Janet Chilvers**

Technical Adviser – IBM
near Victoria Station **Neg. to £9,200 + profit share**

This is a marvellous opportunity to work for a leading international services organisation. As a result of continued expansion, they are now seeking an additional Programmer/Analyst to join their small but highly effective sales support team. The successful candidate will participate in various new projects in addition to taking on responsibility for several client accounts, conducting demonstrations and benchmarks, customer training and preparing proposals.
The company have sophisticated (IBM) hardware and software; therefore applicants must be fully conversant with JCL, timesharing (TSO) and batch (MVS) systems. The ability to programme in COBOL, PL/1 or FORTRAN is essential.
Contact: Margaret Stevens

Designers – Industrial Systems
Berkshire **c. £8,500**

A large well-known manufacturer has opportunities for Systems Designers to work on the development of real-time industrial systems using mini and micro-computers.
Applicants must have at least four years experience in design and programming of automation, military or process control systems and should be familiar with a real-time language such as CORAL or RTL/2.
Salaries are negotiable according to experience. Large company benefits including an excellent relocation package. **Contact: Jim Baker**

Systems Programmer
Central London **to £8,500 p.a.**

Eighteen months System Programming experience gained in a DOS/VS. CICS environment would be the ideal for this exciting development position. However, if you have other IBM software experience and are keen to join an international bank, where you could develop into *the* software expert then please apply.
The banks main problem is that the software environment is going to be a full CICS based system, in preparation for the installation of an 4300, so the experience to be gained is absolutely superb. Talent and ability are the main criteria, not specific experience.
All normal banking benefits would apply, including such things as a cheap mortgage, insurance and season ticket loan. **Contact: Jim Baker**

Programmers
Hampshire Coast **c. £7,000 + relocation**

Our client has an immediate requirement for several programmers with minimum 18 months of CICS/COBOL and ideally knowledge of PL/1.
You will have worked in a DOS/VS environment before on commercial systems and be able to demonstrate a desire to progress quickly.
An excellent opportunity to capitalise on your existing experience.
Contact: Brian Postles

JAMES BAKER ASSOCIATES,
International Personnel Consultants,
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Tel: 01-439 9311.
(2006)

datascene

Cobol Programmers and Analysts

Middlesex **£6,500-£9,000**

An international manufacturing company, whose reputation is based on quality, seeks self-motivated analysts and programmers for their U.K. headquarters. The Programmers should have at least 18 months' experience of COBOL for the IBM machines, preferably under OS/VSI. Salaries of c. £6,500 are offered. Analysts should have at least three years' experience with a history of completed projects. The salaries will be c. £9,000. Real time working is used and training is offered where needed. The benefits include a good pension and a car loan scheme.

ANALYSTS (Banking)

Central London **To c. £8,500 + Profits**

A leading central London banking organisation needs further experienced analysts for its head office. A minimum of two years' experience is required, ideally using IBM 3030 series or PDP machines. A programming background is necessary. The current real-time systems with C.I.C.S. are to be supplemented by Adabas. The company is seeking to expand its data-base involvement and will require the successful applicant to define data-base structures and implement them. The very generous banking benefits include cheap personal loans and mortgage facilities plus an annual bonus.

Systems Analysts

North London **To £8,500**

Our client is a well-known name in the manufacture of household commodities, who seek two systems analysts to complete their team. Applicants should be aged between 24 and 35, be educated to "A" Level standard, be well motivated and have a background of programming on IBM machines. The applications either in-hand or planned cover a wide range of activities for the whole group. Among benefits offered are restaurant facilities, non-contributory pension scheme (after two years), subsidised company products.

Basic + Or Aims Programmers

London/City **£6500**

Our client, a very well-known Merchant Bank based in the City of London, are looking for two programmers to augment their existing Data Processing Team. Ideally you should have approximately eighteen months' programming experience. The current configuration consists of numerous Digital PDP 11 series computers and current development work includes foreign exchange and real-time applications. Company benefits include interest-free season ticket loans, staff restaurant and low interest mortgage facilities.

Real Time Programmers and Analysts

Central London **£ Negotiable**

Analysts and programmers with real-time experience are urgently required by this long-established and successful software house. Applicants will have at least one year's experience of this type of work ideally on DEC or INTEL machines, but more experienced applicants are particularly required. The projects cover commercial and particularly technical work with control and communications systems using, typically Coral and Pascal. Company benefits include group BUPA, L/Vs. Facilities exist to purchase clothing at a discount.

Cobol Programmers

West London **£7000**

Due to further expansion this well-known bureau to the West of London are looking for COBOL programmers with at least six months' experience. Projects include bought and sales ledger applications and real-time development work, for which training will be given. Prospects are excellent and progression into systems and/or project management is very likely, generous company benefits include four weeks' holiday.

Basic + 2 Programmers

London/City **£7500**

This major European bank are seeking to employ experienced programmers, ideally with at least one year's experience and a knowledge of BASIC + 2 and PDP equipment. Applicants can expect to be programming in a batch and real time environment and career progression will include systems training. Excellent fringe benefits include season ticket loans, low interest mortgage facilities and staff restaurant.

Junior Programmers

London **£ Negotiable**

Datascene have been asked by several clients to recruit programmers at a junior level. Experience in a working environment is essential, but the language and machine you are working with is irrelevant. If you feel misplaced in your current employment or you are thinking of changing direction then Datascene can almost certainly help you. Please call and let's assess your experience to date and hopefully help you in your chosen career.

(2015)

Datascene International Limited,
Sceptre House,
169/173 Regent Street,
London W1R 7FB. Telex: 25851

01-439 7871
24 hour answer phone

ICL ME29
Systems Development Analyst

Middlesex **c.£9000+benefits**

Our client is a well known manufacturer and distributor of home recreation products with expanding interests in the international market, particularly Europe. To complement the business growth, the DP facility is undergoing technological advances which include the replacement of the existing ICL 2903 with ME29, and development of management information and production control systems based on ICL OMAC and BOMP.

Our client wishes to appoint a Systems Development Analyst who will play a crucial role in the development of systems within the areas of manufacturing, production and inventory control, and management accounting.

A background in ICL COBOL and at least 2 years analysis experience within a manufacturing or commercially orientated user environment are essential requirements. A knowledge of OMAC, BOMP and on-line applications is desirable but not essential as full training is offered.

Conveniently positioned for rail and road access, our client offers the successful candidate a competitive salary and benefits package in addition to an attractive working environment.

For further details, and to arrange an initial interview, telephone John Marshall, or write quoting reference JGM 3683.

(1891)

Lloyd Chapman Associates
123, New Bond Street, London W1Y 0HR 01-408 1670

UNIVERSITY OF NOTTINGHAM

SENIOR PROGRAMMER

A vacancy exists at the University of Nottingham within the Central Administrative Data Processing Unit for a Senior Programmer. The successful applicant will lead the programming team in the maintenance of existing programs, conversion of programs to utilise a disc based configuration, and writing new programs as new systems are defined.

The installation is currently based on an ICL 1901A Magnetic Tape with programs written in 'PLAN' and 'COBOL' which is due for replacement in the near future.

The appointment will be made in the salary range £4,402-£8,769 per annum (under review).

Application forms can be obtained from the Staff Appointments Officer, University of Nottingham, University Park, Nottingham NG7 2RD. Closing date for applications is 28th July, 1980. Please quote ref. 749.

(2017)

CONSULTANT PROJECT MANAGER

EALING c.£10,000

An International software house requires an experienced D.P. professional who is at present responsible for at least 30 staff providing both a service to user departments and bureau facilities for outside users. He or she must also have consultancy experience in hardware/software selection, accounting, payroll, stock inventory and financial analysis, from feasibility through to implementation.

A Masters Degree in Engineering, German + experience of foreign central Government projects/planning/interface would be an added advantage.

Please contact A. O. Basch, 01-840 2000, quoting ref. ADB101

BCA

As a progressive Northern Advertising Agency handling local and national accounts we are having to computerise our media booking and accounting systems and are therefore seeking a -

DATA PROCESSING MANAGER

Reporting to the Directors, the successful applicant will have previous experience with Burroughs installations, preferably B80 and B800, and also knowledge of and interest in COBOL programming.

The person we are seeking could well be "second in command" at their present installation, but has the maturity and confidence to assume the full responsibility for the running of the department on a day-to-day basis, including the scheduling of work, ensuring all staff are properly trained, standard procedures clearly defined and documented etc.; but will also be deeply involved in the continuing development and improvement of present systems as well as the possible introduction of new systems.

In return we are offering a good salary and working conditions, pension scheme, B.U.P.A. membership and relocation expenses if necessary.

Please apply in writing, stating salary required and details of career to date, to:

The Chairman,
Barry Cooke Advertising Limited, 102 Beverley Rd, HULL HU3 1YA.

This vacancy is open to male or female applicants.

(1028)

DATA PROCESSING MANAGER

Applications in writing with C.V. to Mrs. A. Hor... nal, 600 ... Square, London, S.W.1 (Phone 01 584 4202)

SOUTH GLAMORGAN COUNTY COUNCIL
SOUTH GLAMORGAN INSTITUTE OF HIGHER EDUCATION
FACULTY OF SCIENCE
DEPARTMENT OF PHYSICAL SCIENCES & MATHEMATICS

LECTURER GRADE II IN COMPUTER STUDIES

Salary Scale: £4,0[illegible]1-£7,794 p.a.

Applications are invited for the above post to commence on 1st September, 1980.

Duties will include the teaching of programming and Computer Science [illegible] courses including British Computer Society, GCE 'A' Level and [illegible] examinations.

Candidates should be graduates or equivalent and must be competent in programming in BASIC, COBOL and a low level language.

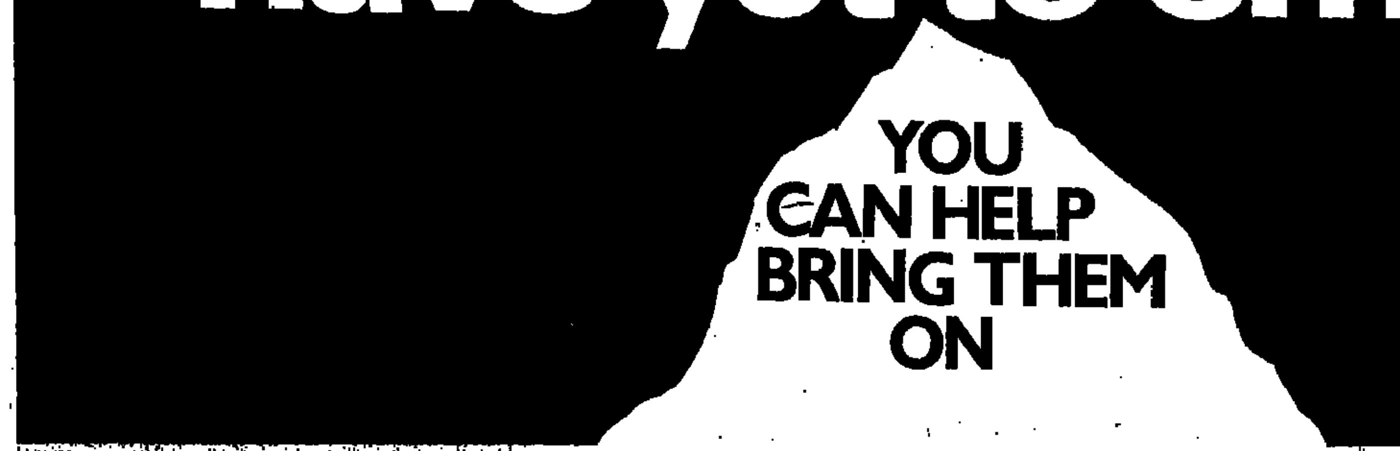
The Department has a multi-access computer system, and hopes to [illegible] equipment shortly.

Application forms and further particulars are available from [illegible] Personnel Officer, South Glamorgan Institute of Higher Education, [illegible] Centre, Cyncoed Road, Cardiff CF2 6XD, to whom they should be returned within 14 days of the appearance of this advertisement.

MANAGEMENT & EXECUTIVE SELECTION

telephone 01-637 9611

9/10ths of our systems have yet to emerge



ASSEMBLER LEVEL PROGRAMMERS
to £10k + car

The emergence of totally integrated computer systems is without doubt the most exciting development of this decade.

The world's leader in this field is searching for the skills to develop the latest technology — to mould the future — now.

Within this small group you will have the freedom to express and develop your ideas, working in an ideal environment 20 miles west of London.

ADD to this a car, BUPA, Life Assurance, 4 weeks' holidays and bonus...

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Suite 201/6 Albany House 324 Regent Street London W1R 5AA 01-637 9611

MANAGEMENT & EXECUTIVE SELECTION

Specialists since 1971 in UK and international computer appointments. We have many other jobs on our files and offer a career counselling service to computer professionals.

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4 Church Lane, Nantwich, Cheshire CW5 5RQ
Telephone: 0270 627206
also at
16 Bedford Row, London WC1R 4EB
Telephone 01-242 9356 Telex: 268652

Member of Computing Services Association

Mainz West Germany

Analyst Programmers — c £13,000

IBM370/158 & 4341; Manufacturing systems; ASS & CICS

Two analyst programmers are required to join the development team of this substantial German enterprise which manufactures a wide range of products in the field of glass, optics, etc. A minimum of three years' experience is required and this should include IBM ASSEMBLER, COBOL or PLI and CICS. Experience of COPICS, CAPOSS, etc., would be an added advantage. Knowledge of German is not essential, although serious candidates should be prepared to learn. Relocation expenses will be paid.

LONDON INTERVIEWS:
FRIDAY, 1st AUGUST
followed shortly be final interviews in Mainz

For an initial discussion, phone Neville John on Nantwich (0270) 627206 or Karen Rizzello on 01-242 9356. Alternatively, write to Neville John at our Nantwich office

(2041)

D.P. MANAGER
CARLOW, IRELAND

Braun Ireland Limited, an expanding constituent of the Gillette Company, employs in excess of 800 people in the manufacture of electronic products in the home appliance field. The plant is located at Carlow — one hour's drive from Dublin. A D.P. Manager is now to be appointed.

The Company currently operates an advanced IBM/34 installation of the maximum configuration available; 22 workstations; MAPICS manufacturing modules; full suite of on-line accounting modules; IBM 5230 time entry system and a micro-processor based production monitoring system. The D.P. Manager will be responsible for the maintenance and enhancement of the installation.

Candidates, who should have had significant prior experience as computer specialists in the manufacturing sector, should have the capacity to effectively communicate across the organisation and to develop subordinate staff.

Salary will not be a limiting factor. An attractive fringe benefit package, including a company car will be provided and relocation allowances, if applicable, will be paid.

Candidates should send comprehensive personal, career and salary details to John Woods at Harcourt House, Harcourt Street, Dublin 2. Please quote Reference No. 1942.

Peat, Marwick, Mitchell & Co.
(Management Consultants) Ireland
DUBLIN, CORK, LIMERICK, BELFAST & GALWAY.

(2078)

UNIVERSITY OF BIRMINGHAM
Computer Centre

RESEARCH FELLOW

Applications are invited for this three-year post to work on British Library funded project on development of an electronic journal.

Candidates should have good honours degree and preferably a relevant higher degree as well as considerable experience of software development. An interest in problems of man/machine communication an advantage.

Salary on Research Fellow 1A range £5082-£8769 per annum (under review) plus superannuation.

Maximum starting salary £6736.

Informal enquiries to Professor P. Jarratt (021) 472 1301, Ext. 2233.

Further particulars from Mr. A.C. Badenoch, Assistant Registrar (Sci. and Eng.), P.O. Box 363, Birmingham B15 2TT (021 472 1301, Ext. 3133) to whom applications (3 copies) including full curriculum vitae and naming three referees should be sent by Friday, August 1st, 1980.

Please quote reference GW24.

(2049)

Senior Computer Operator

circa.£6,200 (including shift allowance)

At Citroen Cars, we operate an efficient computer system which supports the Sales Administration and Accounts Departments, processing information on a real time basis.

We have two sites, one at Mill Street, Slough, and the other at our warehouse in Runnymede. The successful applicant will spend their time alternating between the two sites, therefore, own transport is essential.

We now wish to appoint a Senior Computer Operator who will be expected to have had at least 3 years experience, of which at least 1 year should have been in a supervisory capacity.

You will be fully trained to operate the Citroen computers.

We, therefore, are seeking a self-motivated, responsible person, capable of working without supervision.

It is a 37½ hour week, on a two shift system, and weekend work will be necessary to meet work load requirements on a monthly basis. Premium rates of pay are offered.

Apart from the salary of about £6,200 (including shift allowance) other Citroen benefits include staff discount on cars and parts, 4 weeks annual holiday, subsidised restaurant and a contributory pension scheme with free life assurance.

Please apply in writing to: Helen Sharp, Personnel Officer, Citroen Cars Limited, Mill Street, Slough, Berks.

(2018)

CITROËN

COMPUTER FIELD ENGINEERS

£10,000 + S.E. + O.T. + Car

Fast expanding U.K. subsidiary of large American CSP, providing leader in providing Business Information Services, requires engineers in LONDON, MANCHESTER, LEEDS.

If you are experienced in Mini-Computer or Word Processing and are ideally and looking to earn around £5,000 with excellent future prospects.

Please Reply

DEE EXECUTIVE (AGY) LTD.
549 9251

BOX Nos.

Replies to Box No. ... should be addressed to: Box No. ... c/o Computer Weekly, Hilton House, Hilton Street, London EC2A 4JD

BASIC + RSTS PROGRAMMER NEW YORK

1 YEAR MINIMUM

TEL 01 606 8900 (24 hour service)

PROGRAMMERS
FOR ENGINEERING AND SCIENCE

We are a specialist agency covering the fields of ENGINEERING & SCIENCE.

If you have experience in the above areas using FORTRAN, ASSEMBLER, CORAL or any other Science related language please contact RAY DARKER on CRAYFORD (0322) 51821 for a confidential discussion regarding your career prospects.

SALARY RANGE £4000-£10000 ALL AREAS

Saintfine (Southern Ltd) 5 Crayford High Street, CRAYFORD, KENT

$20,000 – $30,000 pa

To Work in the USA – The ACSIS Way!

Have you thought of working in America? – But never done anything about it because you've been worried about:

The Cost of Living? – Accommodation? – What to do with your house in the UK? – Schooling for the children? – National Health (or lack of it)? – Visa Applications? – Tax? – etc, etc, ...

ACS INTERNATIONAL SYSTEMS INC. have been sending staff to America for 6 years, and after transferring over 150 people from the UK we reckon we've met and solved very nearly every problem there is!

- ACSIS will take very special care of you, your wife and family and look after all the organisational problems involved with moving abroad.
- ACSIS will pay you **FULL US SALARIES** with **THE MOST COMPREHENSIVE MEDICAL INSURANCE SCHEME AVAILABLE** to work as Consultants on site with our clients – we don't believe in cheap British "Slave Labour".
- ACSIS offer full re-location expenses, organise flights, baggage, and accommodation for you and your family.
- ACSIS have 50 people (some married with children) currently working in the USA so you'll not lack for friends – the social life enjoyed by ACSIS consultancy staff is second to none!
- If, despite the care and attention lavished upon you by our staff, you still don't like the USA, **we'll fly you back to the UK after only 6 MONTHS.** So you can carry on your career over here with the minimum of interruption.

In return for this initial 6 month's commitment ACSIS offer PROGRAMMERS AND ANALYSTS WITH IBM COBOL AND/OR TWO YEARS SYSTEMS EXPERIENCE the opportunity to gain valuable in-depth experience in Banking/Financial installations which use all the most up-to-date Database, On-Line and Communications Equipment.

Expense-paid interviews in London during the last week of August 1980 – send your resumé to IAN COX or telephone him on 01-278 6426 (day) or 01-272 2794 (evenings and weekends).

ACS (Consultancy & Support Services) Ltd.
37-39 Bowling Green Lane, London EC1R 0BJ

URGENT REQUIREMENTS For NCR NEAT and/or COBOL PROGRAMMERS IMS, TSO, CICS DB/DC NEW YORK, W. COAST DALLAS!

(1980)

nihe limerick

THE NATIONAL INSTITUTE FOR HIGHER EDUCATION

The Electronic Engineering Department offers four-year degree level programmes in Electronic Engineering and in Computer Systems as well as three-year National Diploma programmes in Industrial Electronics, Computer Engineering and Instrumentation and Control. Post-graduate programme development is at an advanced stage with courses due to commence in 1980. Excellent opportunities exist to conduct industrially applied research and development due to the continuing rapid expansion of the electronics industry nationally and particularly in the Mid-West Region.

Several new posts are now available as Lecturer / Assistant Lecturer in Electronic Engineering and are to be filled in the areas listed below. Normally it is expected that applicants will hold an advanced degree.

SIGNAL PROCESSING / COMMUNICATIONS ENGINEERING

An appropriate background would support teaching and research activity in Digital Signal Processing, Communications Engineering or applications of Signal Processing.

COMPUTER SOFTWARE

Suitable experience would be concerning with compiler and language design or real-time applications with mini or micro-processor based systems.

TRANSDUCERS / SEMI-CONDUCTOR DEVICES

Experience in the research and development of special purpose transducers, particularly semi-conductor devices is required.

DATA COMMUNICATIONS / COMPUTER NETWORKS

A background in Satellite Data Communications, Computer Networking or some other aspect of data networks is required.

SALARY SCALES

Lecturer	£8,013 — £11,848 p.a. (Under review)
Assistant Lecturer	£6,790 — £ 8,476 p.a.

Application forms available from the Personnel Office, The National Institute for Higher Education, Limerick, Ireland, or a Curriculum Vitae should be submitted by Friday, 15 August, 1980.

(1975)

UNITED KINGDOM ATOMIC ENERGY AUTHORITY

Computer Specialists

The United Kingdom Atomic Energy Authority's establishment at Winfrith, which is situated between Bournemouth and Weymouth in Dorset, has vacancies for

COMPUTER SCIENTISTS

The Establishment is amongst the major users of computers for research and development in Britain. A dual ICL 2976 configuration with 8M bytes of mainstore and a large complement of peripherals has recently been installed and a substantial programme of development is in hand. Two Perkin-Elmer 832 minicomputers are being developed to handle terminal networks on and off site, and many smaller computers are also used.

Although experience in minicomputer systems, computer-related telecommunications or mainframe software would be an advantage, we would also be interested in hearing from graduates and post-graduates with user experience in computing systems who would like to move into the field. In addition, opportunities exist for applications programmers with scientific or engineering backgrounds. Candidates are normally expected to have honours degrees in relevant subjects. Appointments will be made to the Scientific, Higher Scientific and Senior Scientific Officer grades within the ranges:-

Scientific Officer: £4,080 to £5,875 p.a.
Higher Scientific Officer: £5,455 to £7,210 p.a.
Senior Scientific Officer: £6,780 to £9,315 p.a.

All salary scales are at present under review.

The Authority offers an attractive package of benefits, including an excellent contributory superannuation scheme.

Housing assistance is available to a married person living beyond daily travelling distance.

Please write for an application form to: Appointments Officer (A), Personnel Branch, A.E.E. Winfrith, FREEPOST, Dorchester, DORSET DT2 8DH. Telephone Dorchester (0305) 3111 Extn. 2666. Quoting reference WA 340.

(1966)

Winfrith

Trainee Computer Programmer

Ealing, W5

Trusthouse Forte Hotels Ltd., have a computerised hotel reservations system located in Ealing W.5, and we now need a Trainee Programmer for an IBM 3790 mini computer system to assist the Systems Analyst.

The position will entail a fair amount of user liaison in addition to programming, necessitating an outgoing and confident personality.

If you have 1-2 years' practical experience in any high level language, we will retrain you if necessary.

Trusthouse Forte Hotels offer excellent company benefits, including four weeks' annual holiday, discounts on hotel accommodation, package holidays, and discounts on private medical insurance schemes and consumer goods. Promotional prospects within the Company are excellent.

For an application form, please telephone or write to: Mrs. V. Collins, Personnel Officer, Trusthouse Forte Hotels Ltd., Paramount House, 71-75 Uxbridge Road, Ealing W.5. Tel: 01-579 9101

thf

(1940)

TRUSTHOUSE FORTE HOTELS

SALES DIRECTOR (DESIGNATE)

WEST YORKSHIRE

H & M Computers are seeking to recruit for a key post in the company's development phase.

The person appointed will have sufficient drive and enthusiasm to enable him to contribute materially towards the achievement of the company's ambitious expansion plans. He/she will have extensive experience in selling in the small/medium commercial sector.

In return the company offers a considerable degree of autonomy, the opportunity to play a positive role in the formation of marketing strategy, the appointment to directorship after an initial proving period, an above average salary and attractive fringe benefits.

Write enclosing C.V., or telephone: **M. C. Elstub, H & M Computers Ltd., P.O. Box B68 Huddersfield. Phone 22200.**

(1913)

SYSTEM 10 PROGRAMMER/ANALYST CENTRAL LONDON

Looking for more responsibility in a medium-sized operation where your contribution is visible and will quickly lead to management promotion?

This opportunity has arisen after four years because only now does the job holder reluctantly want and need to move to an even bigger job. It says much for the department, the work, and the system, which offers a great deal in every respect – including the prospect of an even bigger challenge in the near future.

The configuration is a dual ICL System 10 installation handling a very wide range of commercial applications. Gradually it has become even more complex as additional functions have been added. But some of the knottier and more interesting problems remain, combined with at least two years study, recommendation and implementation of the next generation, which will be as comprehensive as the small and highly involved team believe to be practical.

With only 300 employees and a DP section of 13, this is an organisation where you can relate to everyone, where you are listened to and encouraged to seek imaginative solutions, and where you can also enjoy a salary of around £8,000 and excellent conditions.

In fact, this really is an outstanding opportunity for a good programmer with systems design experience of preferably three years.

If you'd like to know more, please phone Ron Westcott on 01-437 9261.

(2028)

Anglo-Australian Observatory

COMPUTER PROGRAMMER

The Anglo-Australian Observatory has vacancies for one or two programmers to join the software group at the AAO Laboratory in Epping, N.S.W., Australia.

The Observatory operates the 3.9 metre Anglo-Australian Telescope at Siding Spring, near Coonabarabran, N.S.W., 450 kms northwest of Sydney, one of the largest and most modern optical telescopes in the world. Extensive use of computers is made by the Observatory, from real-time instrument control and data acquisition to reduction and analysis of observations. Five large Interdata Model 70 configurations are operated, three at the telescope and two at the Laboratory. Two DEC VAX-11/780 systems with large memory and disc resources have recently been ordered and installation is expected to begin in October 1980.

A major instrument development effort is about to begin, and the arrival of the VAX computers means that the successful applicants will be faced with a wide variety of extremely challenging tasks, ranging from real time instrument control to interactive picture processing.

The appointment will be made within the Experimental Officer classification $11429-$23404 p.a. The commencing salary will depend on qualifications and experience. The positions are based at Epping, but occasional short visits to the telescope site will be necessary.

Conditions: Basically similar to those of the Australian Public Service. Superannuation is available. The Observatory will pay fares and reasonable removal expenses to Sydney and assist with initial rent.

Applications: Write stating personal details, qualifications, experience, position now held, and including the names of three referees to: The Director, Anglo-Australian Observatory, P.O. Box 296, Epping, N.S.W., 2121, Australia, by 9th August, 1980.

GREATER GLASGOW HEALTH BOARD

SENIOR SYSTEMS DESIGNER

Scale 14 £7,032-£8,851

Computer Centre — 27 Park Circus, Glasgow.

Applications are invited from suitably qualified and experienced persons for the above post.

Candidates will need considerable experience in computing and a proven ability to design and install complex systems. Knowledge and experience of the National Health Service would be an advantage and programming experience is also desirable. Application forms and further details may be obtained from the Personnel Officer, Greater Glasgow Health Board, 351 Sauchiehall Street, Glasgow G2 3HT, to whom completed applications should be returned no later than Friday, 1st August, 1980.

Analyst-Programmers

Saudi Arabia: c. £11,000 tax free

IMPERIAL COLLEGE (UNIVERSITY OF LONDON)

COMPUTER CENTRE

Microcomputer Centre Supervisor/Demonstrator required to assume responsibility for setting up a new Microcomputer Centre, arranging its use, and planning for software and training support.

Immediate Contract Vacancies

PROJECT LEADERS
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PROGRAMMERS
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IBM 370/148 DL/1 COBOL
ICL COBOL IDMS
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Fleet 21768

White & Nunn (Personnel Services) Ltd

(2028)

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Telephone Number: Hurstpierpoint 833848 (24-hr. answering service)

TECHNICAL OPS. CONTROLLER

to £9,000 + Benefits + Review after 3 months

MIDDLESEX/SURREY BORDER

Our client operates System 32 and 34 hardware on two sites. They have a need for a person with IBM GSD experience able to contribute to an already highly effective Management Services Unit.

The major responsibilities will be to:
- Contribute to the technical design of all new systems.
- Review and improve system software performance and operations procedures.
- Manage the scheduling and running of live systems.
- Advise on future hardware requirements.

The ideal candidate should possess:-
- Sound RPG 2/OCL.
- System 3, 32 or 34 background, preferably obtained within a software house or similar environment, although this is not essential.
- The right personality to blend into a small enthusiastic unit.
- Some Operations Experience.

The vacancy would probably suit an Analyst/Programmer seeking full scope for their talents in a supervisory role.

ASSISTANCE WITH RELOCATION IF NECESSARY

Ref. CW/41/80

هكذا من الأصل

COBOL PROGRAMMER

TO £8,500 + 3 MONTH REVIEW

BERKSHIRE Close to M4/A4 Motorways

If you have up to 2 years' COBOL (knowledge of IBM OS a positive asset) YOU COULD BE EARNING £10,000 BY THE AUTUMN. If you think you are a cut above the ordinary, why not capitalise on it.

Our client uses an IBM 370/3033 under OS, MVS and is within easy reach of Middlesex, Surrey, Bucks and Berkshire.

For further details contact JACK COLLINS at his office — 0273 833848 (9am-5pm) or any evening or weekend after 6 pm on 0273 400880. Local interviews can usually be arranged.

Ref. CW/42/80

(1994)

Recruitment LOGISTIX in Informatics

SNA & Telecomms

Rheinland Germany : Salary to £20K

Our client, established in West Germany for many years, has vacancies in three Rheinland cities for **Systems Programmers, Software Development Specialists and Project Leaders.** These outstanding opportunities are in the areas of Data Communications, Message switching (with particular reference to SNA techniques) and Mini/Micro Software Development. Successful applicants will be either graduates in a numerate subject or alternatively, have practical experience in advanced distributed processing and networking applications on mini-computers or dual processors. We anticipate that you will be aged 27-35 years, have a little German language knowledge (hopefully more) and be prepared to relocate (at the Company's expense) for several years to the Federal Republic. **Ref. L/29/A**

Office & Business Systems

West of London and City : to £11K

A well established Systems Division of a Mini-Computer Manufacturer seeks **Applications Programmers and Systems Analysts** for its two London based divisions. Applications Programmers should offer a minimum of one year's experience of either BASIC and/or Assembler. Business Analysts should have recent Business and Financial Applications experience on any mini/micro based system in one of the following: Stock/Inventory control, Accounting packages and Payroll/Personnel records. These positions will be of particular interest to young and ambitious professionals who whilst keeping in touch with technical developments also have a real opportunity to substantially increase their income and career progression. In addition to excellent salaries the Company pays an annual bonus based on individual performance and overall profitability. **Ref. L/29/B**

Graphics Applications

Home Counties : Salary to £13K

One of the market leaders in the manufacture and sale of graphics terminals and instrumentation devices has a requirement for **Project Leaders and Consultants** to assist in the development, installation and support of the Company's software packages. An in-depth knowledge of FORTRAN supplemented by CAD/CAM techniques is essential. Successful applicants will also have a background in mini-computers operating in an on-line environment. In addition to highly competitive salaries our clients will for certain positions offer a car allowance whilst all positions command the usual large company benefits. **Ref. L/29/C**

Cobol Programmers

Central and Greater London : Salary £6.5-£8K

A renowned Software Products and Consultancy Group is seeking **COBOL Programmers** to join a young and successful team working on numerous projects in both Central and Greater London. Suitable candidates should be currently employed by a large User or Software House operating in the specialist areas of Banking/Insurance Oil or Retailing. You will probably have had in-depth involvement with Payrolls, Stock/Inventory Control, Sales and Bought Ledgers. Whilst our client has no preference for particular hardware experience, current or very recent knowledge of IBM, DEC, ICL or HP equipment will be a distinct advantage. Similarly, those candidates who can offer Database and/or on-line skills will be especially favoured by our client. **Ref. L/29/D**

Commercial Systems

Benelux : Salary to £22K

A Corporation of U.S. origin, well established in Benelux and France, requires additional **Systems Designers and Commercial Analysts** to join its permanent staff in either its U.K. or Brussels offices. Successful candidates should be aged 28-35 years and offer Accountancy or Management Consultancy experience, Banking (Retail or Merchant), Stockbroking or Production Planning expertise with a large scale IBM, Burroughs or Honeywell user. All positions will entail a degree of national and international travel. It is an added advantage to speak reasonable French or German for business and social reasons. Interviews can be arranged in U.K., Holland or Belgium. **Ref. L/29/E**

Database Analysts

Thames Valley : Salary £13K + Benefits

A major International Supplier of Teleprocessing and Database Systems has requested LOGISTIX to identify and recruit several **IBM orientated Data Systems Analysts** for its U.K. Headquarters. Applications areas will include manufacturing, production, materials control and scheduling. Software involvement will ideally have included one or more of: CICS/VS, TOTAL, SHADOW, DBOMP, MARPICS, IMS, IDMS or RAMIS. A feature of all these positions is the high degree of client contact in the form of seminars, product demonstrations, feasibility studies, reporting, live implementation and problem solving. For some positions candidates are not required to live locally and applicants from diverse areas are encouraged to apply. **Ref. L/29/F**

Information Consultants

London : Salary to £14,000

Our client is a leading consultancy and communications product specialist based in the centre of London. Owing to a rapid increase in the demand for its expertise in the areas of office automation and information science technology, additional **Senior Consultants** are required. Suitable applicants will have current or very recent involvement with Systems Network Architecture (SNA), preferably using IBM software and hardware. Those who have experience of electronic mailing, text and word processing will, of course, be particularly welcome. However, more important will be the ability to lead project teams developing state-of-the-art software. Our client also seeks the personal qualities of self-confidence, good presentation and self-motivation. **Ref. L/29/G**

Logistix, 10 Grenville Place London SW7 4RW

01-373 3063 LOGISTIX Telex: 28800

Wakefield Area Health Authority

Western District (Wakefield)

COMPUTER OPERATIONS SUPERVISOR

Pinderfields General Hospital

Wakefield Area Health Authority, Western District (Wakefield) wish to appoint a Computer Operations Supervisor (female or male) to work within the Information Services Department at Pinderfields Hospital. This new appointment will be on the General Administrative Grade and salary for a 37 hour week is on a scale from £4240-£5537 (currently under review). New entrants to the National Health Service commence at the minimum of the scale.

Responsibilities will include the day to day management of a Burroughs B80 mini computer system engaged in the provision of management information on the cost of drug issues, and the development and implementation of a stock control system for the District Pharmacy.

Previous experience of computer operations, preferably on a small business system, would be desirable. A knowledge of programming in COBOL would be an advantage. Appropriate training in the operation of the B80 system will be provided for the successful applicant.

Application forms and job description are available from the Acting District Administrator, Wakefield Area Health Authority: Hatfield Hall, Aberford Road, Stanley, Wakefield. Closing date 1st August, 1980.

(2014)

Operational Research Programmer

CROYDON

Salary within range: £6,690-£9,278 p.a.

We're looking for someone with 2 years' experience of programming in FORTRAN and a desire to work with APL.

You will join the Operational Research Section in SEGAS, which is part of the Management Services Department; it is 20 strong with a go-ahead, keen and ambitious outlook. Our Project Teams are currently working in Corporate Planning Modelling, Budget Modelling, stock control, vehicle replacement, telephone answering simulation and several other planning fields.

Projects for which specialist skills in programming are required, are handled by the Programming Team, and a vacancy has arisen to strengthen this team to meet the workload. Current Projects include Management Information Systems software, APL, technical advice on BASIC programming, use of micro-computers and standards of programming.

Members of the Programming Team are expected to liaise frequently with user departments, to give advice where appropriate and to produce documentation.

Self-motivation is required and there is plenty of scope for initiative.

For further details ring Robert Martin on 01-688 4466 ext. 591 or Chris Gregory ext. 593 or at home (after 6 p.m.) Paddock Wood 3515 or write giving full details to The Personnel Manager, South Eastern Gas, SEGAS House, Katharine Street, Croydon CR9 1JU, quoting reference no. 0.6521.

SOUTH EASTERN GAS

(2018)

GERMANY CONTRACTS + MANY U.K.

PERMANENT JOBS FOR IBM PROGRAMMERS ALL SYSTEMS

FOR GERMANY.
Applicants must speak German, 2-3 years' minimum experience on IBM 370 or DEC HARDWARE.

Programming languages — COBOL, PL/1, ASSEMBLER for IBM 370 and FORTRAN/ASSEMBLER for DEC equipment.

FOR U.K.
Applicants must have three years' minimum experience of programming IBM Systems, three years' experience in RPG II/COBOL.

Send résumé to PIPCO (Southern) LTD, 127 St. Margaret's Road, Twickenham, Middlesex. (Agy).

(2042)

ANALYST/PROGRAMMERS

London IBM Cobol/PL1/Mark IV

Tel: Roger Barnes on 01-628 4200
4&6 Copthall Avenue, EC2R 7DA

(2035) SIDA

Systems Analysts in Insurance

Make your next move to Horsham c. £9000

with Sun Alliance, one of the country's leading Insurance Companies.

The Computer Systems Department of our Life Division operates from modern offices in Horsham – a delightful area within easy reach of the South Coast, beautiful Sussex countryside and Central London.

Our IBM 3033/2/1 hardware supports a nationwide teleprocessing network of over 500 terminals, using Database techniques.

Opportunities exist for experienced Analysts to handle all stages of a variety of projects, dealing with users at all levels.

The successful candidates will probably have a degree or relevant qualification. Knowledge of life assurance or pensions applications would be an advantage.

In addition to a highly competitive starting salary, depending on experience, large insurance company benefits include non-contributory pension scheme and, where appropriate, mortgage allowance and assistance with relocation.

For an application form please contact: Susan Ward, Sun Alliance Insurance Group, 1 Bartholomew Lane, London EC2N 2AB. Tel: 01-588 2345, ext. 1237.

These appointments are open to men and women.

SUN ALLIANCE INSURANCE GROUP

(1990)

D.P. MANAGER GLASGOW

£12,000 plus car

Our client has retained us to find a manager for a city centre installation. The successful applicant should have extensive experience in the following areas. Considerable man-management expertise. Production and accounting systems knowledge. Awareness of importance of good customer relationships. Responsibility for systems and programming team. On line experience preferably on I.C.L. 2904 hardware.

ANALYST/PROGRAMMER BERMUDA

$20,000. Tax free

One of the largest companies in Bermuda, with a turnover in excess of $25m, has recently installed an N.C.R. 8455 with 512K memory. They now require another Analyst/Programmer to join the team of three Analyst/Programmers sent out by us earlier this year. Experience required must include good cobol and systems experience on an N.C.R. 8400 series machine with VRX in a commercial D.P. environment.

The importance of the above positions is reflected in the salaries and attractive accompanying packages.

If you have the necessary qualifications and experience for any of these posts, please telephone or write with brief details to:

ALEX DALY
COMPUTER STAFF APPOINTMENTS

134 St. Vincent Street
Glasgow G2 5JU
Tel: 041-221 4166

63 George Street
Edinburgh EH2 2JG
Tel: 031-226 3183

Also at CSA Aberdeen

(2005)

DISTRIBUTED SYSTEMS LIMITED

PERMANENT RECRUITMENT DIVISION

SENIOR ANALYST	Experience in team leading essential. Insurance helpful.	South Coast
ANALYST/PROG.	IBM 3/32/34 RPG2, 2 yrs. exp. Interesting position.	Gr. London & South
PROGRAMMERS	Int. Banks Project. Suit Grad. with Mini exp.—perks	Cen. London
PROGRAMMERS	RPG2 exp. preferred, but would train exp. Prog.	Kent
ANALYST/PROG.	IBM 3/32/34 RPG2 Min. 2 years' experience	Hants.
PROGRAMMER	Redifon Validator/Editor experience essential	Cen. London
DATABASE SPECIALIST	Req. of suit grad. with exp., willing to train—bank	Cen. London
PROGRAMMER	Exp. in Small Machine Assembler essential	Gr. London
PROGRAMMERS	NCR NEAT/3 & Cobol for Int. on-line project—bank. Berks.	Cen. London
PROGRAMMERS	BASIC-PLUS BASIC + 2 experience essential	Hants
ANAL/PROG [illegible]	Min. 2 yrs. exp. IBM370 Cobol pref. Fin. org.	Yorks
OR ANALYST OR MANAGER	Experience of DEC installations essential	Cen. London

CONTRACTS

ANALYST	Life insurance experience essential	
ANALYST/PROG.	RPG2 exp. in depth ICL an advantage	North Hants
ANALYST/PROG.	NCR Century Cobol & NEAT/3 Min. 3 yrs. exp.	Gr. London
ANALYST/PROG.	FORTRAN (Univac and commercial exp. preferred)	United States
ANALYST/PROG.	BASIC + 3 BASIC + 2, RSTS & RMS, 11, 2 yrs.	Home Counties
ANALYST [illegible]	[illegible] Broking essential. IBM M/Frame exp. an adv.	Gr. London
		Gr. London

PLEASE ASK FOR DAVE PALMER OR JIM HOWLEY
DSL 70 Borough High Street, London SE1 1XF
Tel. 01-403 3466/1568 24-Hour Answerphone

CITY MAGIC!

OPERATOR

PROGRAMMING OPPORTUNITY USING INTERACTIVE MINI
Up to £5500 + BONUS

Our Client, a well established Company with around 150 employees, is installing its own large mini computer system later this year. They offer an experienced operator a chance to expand his/her data processing experience into the following fields with full training given:—

- Interactive mini operating systems
- High level programming languages
- User liaison, system testing and parallel running

They seek a stable, presentable person who would like to work in a lively office in Finsbury Circus, E.C.2, close to tube and mainline stations, providing easy access to all parts of Greater London.

If you have operating and data control experience, with clerical ability, and would like to expand your horizons without doing night work, then please ring us quoting reference 287 or write briefly.

(2003)

EDP SYSTEMS 01.637 5796
52-53 Margaret St. London W1N 7FF

PHILIP MORRIS LIMITED is a successful international packaged goods company, whose products include such brand leaders as Marlboro and Chesterfield cigarettes, Seven-Up and Miller Beer, with a fast-growing company in the U.K. Presently located at Brentford, but relocating to Feltham, Middx. in July.

SENIOR COMPUTER PROGRAMMER

Ideally with at least 3 years' IBM mainframe operating experience and a knowledge of DOS/VS (E) on an IBM 370 with a working knowledge of JCL.

Duties will include the provision of a comprehensive support function for development and users of the IBM 4331 and implementation of in-house European operating standards and procedures.

COMPUTER PROGRAMMER

Applicants must have at least 2 years' experience of COBOL and CICS on IBM mainframes, and the ability to specify and code computer programmes for specified systems in particular on-line interactive programmes.

These are new positions within our rapidly expanding Computer department that will shortly instal an IBM 4331.

We offer excellent salaries plus the usual benefits associated with a major group including private medicare scheme and relocation expenses where necessary.

For further information applicants, male/female, should apply in writing enclosing details of career to date, or telephone:

George Vale, Personnel Manager
Philip Morris Limited Great West House
Great West Road Brentford, Middx.
Tel: 01-568 4191

Philip Morris

(2038)

DERBY CITY COUNCIL

SENIOR PROGRAMMER

SO1 £6,636-£7,077
(plus pending national award)

—ICL 2950 Installation.
—Substantial Cobol Programming.
Commencing salary according to qualifications and experience and generous resettlement allowance paid in appropriate cases.

Job details and application form from:

City Treasurer
The Council House, Derby
Telephone 31111, ext. 318

derby

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In Computer Contracts

We're number one in computer contracts because our policy is to match your requirements with those of our clients. We always ensure the two are totally compatible.
Whatever your salary level, experience and desired location contact us now for an informal discussion to obtain an objective appraisal of your prospects and earnings potential.
Here are just some of our current vacancies.

IBM SYS 34 RPG II IBM APL IBM SPS IBM OS JCL/COBOL IBM DOS COBOL VSAM JCL	ANALYST/PROGRAMMER PROGRAMMER PROGRAMMER PROGRAMMER PROGRAMMERS	SURREY HOLLAND NEW YORK BERKS LONDON
UNIVAC 1100 ASSEM UNIVAC DMS ASSEM	PROGRAMMERS SYSTEMS PROGRAMMER	NEW YORK NEW YORK
HONEYWELL 62 TPS/IPS COBOL HONEYWELL 66 IDS/TDS COBOL	ANALYST/PROGRAMMER ANALYST/PROGRAMMER	BERKS SURREY
TEXAS INSTR COBOL	ANALYST/PROGRAMMER	AMSTERDAM
PDP RSXII FORTRAN	PROGRAMMERS/ANALYSTS	AMSTERDAM
MINI R/T FORTRAN/ASSEM MINI R/T CORAL/ASSEM	PROGRAMMER/ANALYSTS ANALYST/PROGRAMMER	BELGIUM HERTS

01-734 0152 (24 hours)

London
Manchester
Birmingham
France
Holland
U.S.A.

Knights No 1

INTERNATIONAL COMPUTER CONSULTANTS

Royalty House,
72, Dean Street,
London, W.1.

CSA Computing Services Association

(1981)

Systems Designer

Management Information Systems

Westminster **c. £9,500**

Our client is a British Government owned company operating exclusively in the public sector overseas for the supply of defence equipment, technical support and the management of major infrastructural projects.

At present the Company's accounting and management information systems are based on computer bureau facilities accessed by means of on-line terminals. To develop these systems and ensure that the changing demands of a rapidly developing business are met, a new position of Systems Designer has been created.

Reporting directly to the General Manager, Planning and Management Services, the Systems Designer will be responsible for the preparation and implementation of a program for systems development. This will involve designing and specifying new systems, liaison with the bureau, supervision of programming staff in the development of new applications and advising management on the use of these systems.

Successful applicants will have several years analysis experience. A knowledge of either CALL AS, or another terminal-based, on-line information management facility would be advantageous.

AN EXCEPTIONAL BENEFITS PACKAGE includes free BUPA, non-contributory Pension Scheme, Luncheon Vouchers and 5 weeks holiday. For details please telephone Kevin McCourt quoting reference number 3876, or write in strictest confidence.

Lloyd Chapman Associates
123 New Bond Street, London W1Y 0HR 01-408 1670

(2030)

هكذا من الأصل

Where will today's RPG II expert be tomorrow?

You know that you have achieved your best in the business systems environment. The challenges to your ability are becoming fewer and fewer. The system/3/32 or 34 is now an old familiar friend. You will now be thinking about your future prospects.

You will be looking for greater job satisfaction, greater financial rewards and a sound foundation for future career growth — and that's where Altergo Business Systems can help.

Altergo Business Systems Limited is one of the most successful companies specialising in IBM Small Business Systems. Our reputation for professionalism and getting the job done has meant rapid expansion. And expansion is always creating challenging opportunities.

We currently have vacancies for Programmers, Analysts and Project Leaders in the North, the Midlands and the South of England. These are long term career positions which offer responsibility, high financial rewards and the opportunity to expand your skills and experience over a wide variety of applications and systems in the commercial and industrial fields.

We are particularly looking for people with enthusiasm, ambition and, above all, a professional outlook. We offer a dynamic organisation which recognises individual achievement. The rewards are the most competitive salaries in the business, a generous bonus scheme, six monthly salary reviews, in-house training and other excellent fringe benefits. The rewards will match the effort and the opportunities for rapid promotion are very real.

ANALYSTS/ PROGRAMMERS

Applicants should have demonstrable experience in RPG II. Knowledge of small IBM machines, especially the System/34, would be a distinct advantage.

PROJECT LEADERS/ SENIOR ANALYSTS

Applicants should have a minimum of 5 years experience in the small business environment and ideally have been responsible for the design and installation of complete systems on IBM equipment.

If you feel that your potential can be realised through the challenge of working within an innovative and stimulating environment, we can give you the opportunity today.

And more, because we are continually involved with every new hardware and software offering, we offer you the real prospect of being the expert tomorrow.

Motivated? Then call us now to discuss your prospects and arrange an interview.

Brian Walker
Barry Whiteaman
Altergo
Business Systems Limited
113 Great Russell Street
LONDON
WC1B 3NQ
Tel: 01-631 1666

Mike Carswell
Peter Johns
Altergo
Business Systems Limited
8th Floor
Emerson House
Albert Street
ECCLES
Manchester
M30 0LJ
Tel: 061-707 4399

Carole Parsons
Altergo
Business Systems Limited
2nd Floor
Arden House
1102 Acocks Green
BIRMINGHAM
B27 6BH
Tel: 021-707 5008

altergo

Systems Engineer
Computer Assisted Design
c£11,500

Unilever Engineering Division is seeking a Systems Engineer to take a leading role in the development of computer assisted draughting and design and its introduction to other locations.

The system in use is based on RDP-11 equipment and includes both graphics work stations and alpha-numeric terminals.

The Systems Engineer will be required to help develop applications of the system and to assist with specification, installation and commissioning of planned extensions and future systems.

Male or female applicants should have a degree in a suitable scientific or engineering subject and a sound working knowledge of FORTRAN. Familiarity with RSX-11/M and computer graphics will be a distinct advantage.

The position is based in central London but some travel, both in the UK and abroad, is involved.

The Company offers free BUPA cover, 6 weeks' holiday a year as well as excellent Pension and Sickness Benefit schemes. Re-location expenses will be paid where necessary. Applications in writing, giving full career details to date together with present salary should be sent to:

The Staff Manager (Ref JSP 19)
Staff Department
Unilever UK Central Resources Ltd.
Unilever House
Blackfriars
London EC4P 4BQ

U

UNIVERSITY OF BIRMINGHAM
Computer Centre
RESEARCH FELLOW

Applications are invited for this three-year post to work on British Library funded project on development of an electronic journal.

Candidates should have good honours degree and preferably a relevant higher degree as well as considerable experience of software development. An interest in problems of open systems interconnection at address level.

Salary on Research Fellow 1A range £5052-£8,001 per annum (under review) plus superannuation.

Maximum starting salary £6736.

Informal enquiries to Professor P. Jarratt (021) 472 1301 ext. 2233.

Further particulars from Mr. A. C. Bedencroft, Assistant Registrar (Sci. and Eng.), PO Box 363, Birmingham B15 2TT (021 472 1301, ext. 3133) to whom applications (6 copies) including full curriculum vitae and names of three referees should be sent by Friday, August 1st, 1980.

Please quote reference number 8024.

BOX Nos.

Box number replies should be addressed to:

Box No.
c/o Computer Weekly
Dorset House
Stamford Street
London SE1 9LU

IMPERIAL COLLEGE OF SCIENCE AND TECHNOLOGY
ARE YOU READY TO OPERATE IN A LARGE MULTI-MAINFRAME ENVIRONMENT?

The [illegible] computer centre requires an experienced [illegible] to take charge of [illegible] operations. [illegible] Salary will be in accordance with the Clerk [illegible] scale (currently £3,402 to £4,062 per annum under review) plus [illegible] superannuation.

Applications, stating age, qualifications and experience, should be sent to the Personnel Officer, Imperial College, London SW7 2AZ, quoting reference number [illegible].

COMPUTER OPERATORS

[illegible] TRAINEE COMPUTER OPERATORS

[illegible] TRAINEE COMPUTER OPERATORS

HIGH FLYERS!
FIELD SERVICE ENGINEERS
MAYFAIR £8,000....

Join an elite Company marketing exciting range of Computer and Medical and Instrumentation equipment. Initial training in Essex will qualify you for top earnings in U.K.

Benefits include salary to £8,000 (profit share + bonus about [illegible] £1,000) + prestige + hire estate car. Premium paid for sterling if any overtime. 4 weeks holidays. B.U.P.A. and [illegible] and contributory pension. If you feel qualified and are living within 30 minutes of Mayfair contact us now ... but hurry this is urgent!

Ref. 2056.
P.S. Salary review after 6 months.

AB EXECUTIVE 01-549 6441

Communications Systems

The University of London Computer Centre provides a National Computer Service as Universities throughout Southern England. The Centre is equipped with Control Data 7600, 6800, 6400 & Cyber 175 computers and supports a large communications network of remote batch and interactive terminals. A development programme is in hand which will include replacement of the existing mainframes in the early 1980s.

The Centre wishes to recruit an experienced systems programmer to join a team of specialists responsible for telecommunications software on existing and future mainframes. The initial duties will include development of modern high-level protocols and [illegible] interfaces to a new front-end telecommunications system and to [illegible] development.

Candidates are expected to have several years of operating system experience which should include communications [illegible]. Academic qualifications to degree level will be required. Experience in project leadership would be an advantage.

Remuneration will be according to age and experience within the range £7,813 to £11,224 (under review) including London weighting.

Further details and application form are obtainable from the Personnel Secretary, UCCC, 20 Guilford Street, WC1N 1DZ. Telephone: 01-405 8400.

NEW COMPUTER DEVELOPMENT
PRESCRIPTION PRICING AUTHORITY — NEWCASTLE-UPON-TYNE

The Authority is to develop and introduce a computer system capable of processing and providing prescribing and costing information from 320 million National Health Service prescriptions each year by more than 10,000 chemists and other contractors. Currently 2,000 staff are employed to process this work manually in nine centres situated in Northern England.

Experienced Computer staff seeking the challenge of developing a new system are required.

Posts available:

Assistant Computer Services Officer. Ref. DS1
Salary scale £7,772 to £9,434 — increase pending

Senior Systems Designers/Programmers Ref. DS2
Salary scale £7,032 to £8,551 — increase pending

Intermediate Systems Designers/Programmers Ref. DS3
Salary scale £6,258 to £7,685 — increase pending

Systems Designers/Programmers. Ref. DS4
Salary scale £5,537 to £6,749 — increase pending

All posts are based in Newcastle-upon-Tyne but some travelling may be required. National Health Service Whitley Council Conditions of Service will apply. Application forms, role specifications and further background information available from:

Personnel Officer
Prescription Pricing Authority
Bridge House
152 Pilgrim Street
Newcastle-upon-Tyne
NE1 6SN

Please quote appropriate reference number(s) when applying.
Closing date for receipt of applications: 15th August, 1980. (2048)

Electronics Engineer
Management Potential circa £9,000 pa + Car

N.B.S., the world's largest supplier of credit card imprinters, requires for its U.K. operation an electronics systems engineer to join a dedicated and successful team, marketing and servicing computer-controlled, encoding and embossing systems, for the rapidly growing plastic credit card industry.

The candidate should offer:
* Computer servicing experience
* Systems design experience
* An ability to be flexible in a rapidly expanding environment, in sales, technical support and development.

The position represents an ideal career development platform for the right candidate.

For an appointment, telephone Weybridge 53291 and ask for Annette Smith (Personnel Manager).

NBS
214 Station Road
Addlestone Weybridge
Surrey KT15 2PH (1077)

SYSTEMS PROJECT CONTROLLER
Circa £10,000 p.a. Cardiff

Chartered Trust Limited, one of the country's leading financial institutions, wishes to appoint a Systems Project Controller into its Technical Services function at its head office in Cardiff.

Reporting to the Systems Manager, this interesting and challenging position offers the successful candidate an opportunity to design, control and develop financial and commercial systems and to assume responsibility for project control and team leadership.

Candidates, male or female, should have had at least 4 years systems experience, ideally in a financial or commercial environment. An ability to approach and resolve business problems in an efficient and practical manner is essential and candidates must be able to liaise effectively with all levels of management. Previous experience of staff and project control would be an advantage.

A competitive benefits package will be offered which includes a subsidised mortgage scheme and generous assistance with relocation expenses, where appropriate.

Please write, in confidence, giving brief career details to J. A. Rogers, Employment Services Manager, Chartered Trust Limited, 24/28 Newport Road, Cardiff CF2 1SR, Tel. Cardiff (0222) 42677, Ext. 2126. (2044)

Chartered Trust
A member of Standard Chartered Bank Group

University of Glasgow
COMPUTING SERVICE
MICROPROCESSOR SUPPORT STAFF

Two new posts are being created for the support of computer applications involving microprocessors.

Further particulars may be had from The Secretary of the University Court (Room 18), The University of Glasgow, Glasgow G12 8QQ. In reply please quote Reference No. 4687P. (2013)

DEPARTMENT OF ARTIFICIAL INTELLIGENCE
UNIVERSITY OF EDINBURGH
SYSTEMS PROGRAMMER

The Systems Programming Group, which provides, maintains and enhances programming languages, applications software and database software required by the DAI supported Artificial Intelligence research community, has a vacancy for a Systems Programmer. The group, which is supported by the Science Research Council has access to a DEC-system-10 machine at Edinburgh University.

Candidates should have a knowledge of current computer architecture and languages, and wide practical experience of large software systems, particularly DBP, POP-2 or Prolog.

Salary will be set on the scales for university staff (£4,602-£8,706, according to age and experience).

Further particulars of the post can be obtained from

The Administrative Assistant
Department of Artificial Intelligence
University of Edinburgh
Hope Park Square
Meadow Lane
Edinburgh EH8 9NW

Application should be made if possible by 25 August, 1980. Please quote reference 80/49. (2046)

CHIEF PROGRAMMERS
C £8,000-£11,000 City + W6
Ten IBM 370 installations using IBM OS. Database on-line applications support [illegible] at least 4 years programming experience [illegible] COBOL ASAP to Heads of Programmers essential

PROGRAMMERS + ANALYST/PROGS
C. £6,500-£8,000 Essex Area
We have a number of companies in the Essex area who are seeking Programmers and Analyst-Programmers. Applicants must have at least two years COBOL programming experience. Some analysis experience desirable

SYSTEMS ANALYST
C £8000
Two well known Companies in Essex both require Systems Analysts. You must have 2 years systems analysis experience with a programming background. IBM experience desirable though not essential. Good Company benefits

PROGRAMMERS OR ANALYST/PROGS.
£6,500-£8,500 W1
A multi national Company have two immediate vacancies to be filled. Knowledge of COBOL plus FORTRAN essential. Top level Trainer considered

SYSTEMS ANALYST
C. £7,000-£8,000 Nr. Gatwick
International Consumer Goods Company have a vacancy for a Systems Analyst for new development work covering stock control and accounting applications. Excellent benefits

If you are interested in any of these vacancies please send us your full C.V. or phone for an application form

AMES PERSONNEL (1954)
Employment Agency Suite 14 Dryden Chambers
119 Oxford Street London W1R 1PA Tel: 01 434 1106

access data communications ltd

require a MEGASALESMAN to take a large BYTE out of the U.K. PERIPHERALS MARKET

We've put a package together worth around £20,000 per annum to anyone who's capable of earning it. Our product range is second to none comprising premier quality daisywheel terminals; high quality, low cost matrix printers; an integrated range of VDU's on stream by the Autumn.

The person we seek will be thoroughly experienced in peripherals sales, won't object to cold calling techniques and will be prepared to work long hours for a very worthwhile return.

We're offering a substantial basic salary plus a car and a generous rate of commission to someone based at our Uxbridge offices and operating throughout the South of England right up to the Midlands.

To avoid time wasted on both sides, we invite applications only from people who are confident in their ability to take a large slice out of a huge and growing market.

Access Data Communications Ltd., 228 High Street, Uxbridge, Middlesex. Tel: (0895) 30831/59052 (2040)

University of Nottingham
Department of Production Engineering and Production Management
ROBOTICS AND COMPUTER AIDED DESIGN

Software designers are required for producing a robot simulation system and computer aided design software for robot and human workplace design.

Extensive refresh and storage tube graphics facilities are available. Vacancies are for experienced and new graduates, salary range based on age and experience, £4,402 to £8053.

Application forms and further details from the Staff Appointments Officer, University of Nottingham, University Park, Nottingham NG7 2RD. Ref. No. 246. (1991)

UNIVERSITY OF NEWCASTLE UPON TYNE
COMPUTING LABORATORY
DEMONSTRATOR

Applications are invited for the temporary post of Demonstrator to the Computing Laboratory for a period of three years tenable from 1st October, 1980, to assist with the teaching in our Digital Systems Laboratory. Ideally, candidates will have experience of digital hardware design but applications with other types of specification would be considered. The post will be particularly attractive to a Ph.D student who has completed most of the research work for his/her thesis.

Salary will be at an appropriate point on the Grade 1A (Research Assistant) scale from 1st April, 1980: £4,402-£8,356, according to age, qualifications and experience.

Further particulars may be obtained from the Senior Assistant Registrar, The University, 6 Kensington Terrace, Newcastle upon Tyne NE1 7RU, to whom applications (2 copies) together with the names of two referees should be lodged not later than 31st July, 1980. Please quote reference 1980/Demonstrator. (1981)

IMPERIAL COLLEGE OF SCIENCE AND TECHNOLOGY
ARE YOU READY TO OPERATE IN A LARGE MULTI-MAINFRAME ENVIRONMENT?

The college computer centre requires an experienced [illegible] to take charge of [illegible] operations. [illegible] Salary will be in accordance with the Clerk [illegible] scale (currently £3,402 to £4,062 per annum under review) plus [illegible] superannuation.

Applications, stating age, qualifications and experience, should be sent to the Personnel Officer, Imperial College, London SW7 2AZ, quoting reference number [illegible].

COMPUTER OPERATORS

[illegible] TRAINEE COMPUTER OPERATORS

[illegible] TRAINEE COMPUTER OPERATORS

COMPUTER FIELD ENGINEERS
SAUDI ARABIA

We are the Saudi Arabian Distributors for Data General and require to recruit 2 engineers to cope with continuing rapid expansion. The basic requirements are:-

- Tax Free Salary Package of £12,000 PLUS
- 2 Year Minimum Contract.
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University of London
COMPUTER SCIENCE AND INTERNATIONAL COMPUTER DEPARTMENT
RESEARCH ASSISTANT/ DEMONSTRATOR

required to assist in the hardware and software development of Queen Mary College's PDP-11 system. The work is varied and will include system maintenance, extending the system's facilities, assisting use of a local area computer network and teaching undergraduates. Candidates should have a good honours degree in computer science or engineering and preferably some relevant experience or a related subject. Practical experience in computer maintenance and/or software development is desirable. Initial salary in range (under review) £3,702-£5,485 p.a.

Please apply by letter, giving full age, qualifications, experience and names of two referees to: The Secretary, Queen Mary College, Mile End Road, London E1 4NS. (1924)

THE SALES BIT

The 'Under a bus' syndrome

I HAD an interaction with a colleague the other day concerning a special arrangement over his personal remuneration package. It was all very straightforward — no hassles in any direction. We had known each other for many years and had developed a good relationship based on mutual trust and respect.

Some days after the discussion he mentioned in passing he was rather surprised that he had been asked to sign a formal document confirming in detail the arrangements.

"After all, we had a good relationship. Had I begun to distrust him after all these years? My word was good enough for him; wasn't his good enough for me? Why this sudden obsession for paperwork?" These were the kind of questions implied by his reaction.

My response was simple: "How secure will your entitlement be if I fall under a bus?" In other words the agreement was absolutely reasonable until such time as:

1. either party was temporarily or permanently removed from his part of the bargain for circumstances beyond his control.
2. the human relationship declined due to the influence of emotional factors.
3. external pressures caused a degradation in the human relationship such as politics, lack of personal success or third-party interference.
4. the company is taken over, and so on.

I must confess that during my career as a salesman I have had to be taught some lessons more than once before their reality sank into my thick skull.

The one that has taken the longest to learn and has caused me most pain and anguish is the simple truth that the closer the human relationship, the greater the need for formality when it comes to making business agreements.

The stronger the relationship within a business arrangement, the higher the cost of failure, for when such a contract goes irretrievably wrong, you not only lose the business; you also lose a friend.

I have both personally experienced and witnessed among friends and acquaintances a perpetuation of instances which seethe in anger and distress for reasons which are not necessarily a fundamental misunderstanding of the original arrangement, but more minor modifications or imperceptible developments in the factors involved which slowly accumulate into a significant force that suddenly erupts into an irrational and emotional mess.

As far as I can see, the fundamental problem is that the average citizen has an absolute trust in the integrity of human nature until it is proven otherwise — usually many times over!

Let's view the sales contract with these considerations in mind:

The details of an agreement to supply a service or product typically consists of a number of standard factors, such as volumes, capacity, size, delivery and so on.

In addition there may be some modifications of usual standards such as early delivery or extra capacity. Then there could be special bespoke facilities.

The trouble is, the salesman believes he knows what was understood at the time he closed the business — and so does the buyer.

Yet without absolute detailed confirmation in written form both parties can misinterpret what the other said.

Do both parties mean the same thing when they use such terms as early, fast, extra? Does the buyer really understand the delivery implications related to a product being produced for the first time?

The only way the salesman can prevent, or at least minimise, such potential conflict is to document everything and obtain written confirmation that the agreement to be signed represents a true picture of all that is required and all that is being promised.

Most salesmen say they hate paperwork, but under pressure will admit they hate unnecessary paperwork, and will tolerate the rest. Believe me, the documentation of formal business agreements is the most important of all such writing activity.

In summary, the test is simply: "Irrespective of my good terms with this person, will the agreement between us still operate effectively should our direct relationship decline or be terminated for whatever reason?"

If the answer for the chief protagonists on both sides is "yes", then the agreement has a reasonable chance of working.

The corresponding test is just as important in my book.

"If this arrangement does not work, will my good relationship with this person deteriorate or be terminated?"

The answer is usually yes, which directs one to that old adage: "Never do business with friends", and its close relative, "Take a partner, halve your profits and double your problems".

Adages don't get to be old without standing the long-term test of truth.

So don't forget to write it all down, confirm that all related parties understand the same thing — and keep well away from buses.

TRADER

Puzzle Answer

EACH Square Triangle may be "processed" to give a consecutive-side Pythagorean triplet, as follows:

Solve the two simultaneous equations

$$D = B - A - 1$$

$$C = \tfrac{1}{2}(2A + 1 - B)$$

where the sides of the triplet are A and (A + 1), and B is the hypotenuse, where C is the square root of the Square Triangle, and where D is the side total of the Square Triangle when it is set out in triangular form.

Considering the third Square Triangle, 1,225, we get C = 35 and D = 49. Solving the equations then produces the triplet dimensions 119-120-169.

MARTINS

MANAGEMENT, PROJECT LEADERS

SENIOR SYSTEMS ANALYSTS, TECHNICAL SUPPORT ANALYSTS. O&M ANALYSTS. For on-line Database development work CAD Engineering and Manufacturing application Area Warwickshire. Salaries to £9,000. Ref SA259

COMPUTER MANAGER. Small mainframe. At least 5 years' experience on commercial applications using IBM or UNIVAC Assembler or RPG Area: Staffs Salary £NEG. Ref M69.

PROJECT LEADER AND SYSTEMS ANALYSTS. At least 4 years in D.P. Area Leicester. Salary to £9,000 Ref. SA224.

SYSTEMS ANALYSTS, MANAGEMENT

SYSTEMS ANALYST. At least 3 years' Commercial Systems Honeywell installation Area Near Wolverhampton. Salary: to £8,000 Ref SA243.

COMPUTER MANAGER. Several years' experience on Honeywell Mainframe and Mini Computers Area: Staffs. Salary £NEG, plus company car Ref: P494.

SENIOR SYSTEMS ANALYST. At least 5 years' D.P. experience including Project Management level to lead a team of 5 Analysts and Programmers specialising in Sales and Financial systems. Formal Programming background desirable. Honeywell Hardware an advantage. Area: North Staffs. Salary: to £8,500 plus relocation package. Ref: SA277.

PROJECT LEADERS, SYSTEMS ANALYST

SENIOR SYSTEMS SPECIALIST. At least 3 years' Commercial Systems preferably with IBM Ores IMS experience. Opportunity to work overseas. Area: Nottinghamshire. Salary: According to experience but very competitive. Ref. SA279.

BUSINESS SYSTEMS ANALYST. At least 5 years' in D.P. Good knowledge of O. & M. and O.R. Techniques required Including working at Project level. Area Wiltshire. Salary: to £9,000. Ref: SA204.

D.P. MANAGER for existing ICL Systems 10 installation. At least 6 years' in D.P. including Management level. Knowledge of Assembler or RPG II essential. Area: Near Wolverhampton. Salary: to £8,500. Ref M73.

ANALYST PROGRAMMERS/ PROGRAMMERS

ANALYST PROGRAMMER. At least 3 years' in D.P. using Cobol. Experience with Software Support or Database Design an advantage. Area: Coventry Salary: to £7,500 Ref. P474.

PROGRAMMER. At least 1 year programming in RPG II or willing to retrain experienced programmer using another language. Area: Cotswolds. Salary: £5,800-plus. Ref: P473.

SYSTEMS SOFTWARE PROGRAMMER AND APPLICATIONS PROGRAMMER. At least 18 months' Cobol preferably working in a DOS environment. Experience using any other manufacturer's Cobol considered. Opportunities to move into inter-active programming using CICS DL1 DOS/VSE, DB and TP Systems. Area: Rural Lincolnshire. Salary: £6,500 plus relocation package. Ref., P77.

ANALYST PROGRAMMER. At least 3 years' in D.P. for both maintenance and new development work. Main language RPG, also Cobol. Area. North Warwickshire. Salary. to £8,000 plus relocation expenses. Ref: SA262.

ANALYST PROGRAMMERS/PROGRAMMERS ANALYST PRO.

PROGRAMMER. At least 1 year's programming in RPG II or willing to retrain experienced programmer using another language. Area: Leicestershire. Salary: to £6,000. Ref: P504.

SENIOR PROGRAMMER. At least 2 years' using IBM Cobol. Area: Leicester. Salary: to £7,700. Ref: P330.

SENIOR ANALYST PROGRAMMER. At least 3 years in DP, preferably with IBM Hardware. Language Cobol. Early promotion opportunity to supervisory manager position. Area: Wolverhampton. Salary: to £8,000. Ref: SA264.

ANALYST/PROGRAMMER AND COBOL PROGRAMMER. Required for Groups Computer Centre in West Bromwich. Salaries: to £8,000. Ref: P192.

OPERATIONS SUPPORT PROGRAMMER. At least 18 months' Cobol and Assembler. New On-line Database System shortly. Area: Northamptonshire. Salary: to £6,000. Ref. P489.

COBOL PROGRAMMER. At least 1 year's Commercial programming experience. Area: Wiltshire. Salary: to £7,000. Ref: P508.

COBOL PROGRAMMER. At least 3 years' Cobol Preferably ICL. On-Line experience not essential. Area: North Nottinghamshire. Salary: to £8,500.

ANALYST PROGRAMMER. DEC Hardware using RTL2 Process Control Applications preferred. Area: Nottingham. Salary: £Negotiable. Ref. SA279.

DIBOL OR BASIC PROGRAMMER. DEC Hardware. 1 year plus experience. Area: Northamptonshire. Salary. to £7,600. Ref.: P505.

SENIOR PROGRAMMER. At least 3 years' ICL Cobol and Plan to overhaul existing systems and implement packages. Area: Redditch. Salary: to £7,000. Ref: P507.

PROGRAMMER ANALYST. At least 12 months' programming in Datashare or similar language. Area. South Warwickshire. Salary: to £7,000 plus company car. Ref: P4217.

ANALYST/PROGRAMMERS

SENIOR PROGRAMMER. At least 2 years' Cobol, Honeywell Gcos preferred. Area: Near Wolverhampton. Salary: £7,000. Ref: P494.

PROGRAMMER. At least 2 years' RPG II. ICL Hardware. Busy Bureau environment writing Programmes and Packages for clients; Area: Central Birmingham. Salary: c. £7,000. Ref: SA263.

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OPERATIONS TEAM LEADER AND OPERATORS. At least 2 years' operating ICL 1900 range using George III. Area: Wiltshire. Salaries: to £6,500. Ref: 0223.

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(2008)

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Computer Centre
Resource & Statistical Services Group

RESOURCE & STATISTICAL SERVICES INFORMATION OFFICER

Salary: £7287–£8097

Applications are invited for the above post in the newly formed Resource & Statistical Services Group in the Computer Centre.

The successful candidate will be a member of a team providing Analyst Programmers who will in consultation with user departments design, construct and develop a database system for use by management and administration of the Polytechnic.

The Resource & Statistical Services Information Officer will be required to play a leading role in both development and operation with users and in initial database design.

The post is one of considerable scope, salary and opportunity. Applicants should hold a degree preferably with some computing experience in the area of education, collection and interpretation of data required in educational or general administrative work would be a distinct advantage.

Application forms to be returned by Friday, August 8th, 1980 can be obtained with further particulars from the Personnel Officer, Plymouth Polytechnic, Drake Circus, Plymouth PL4 8AA.

(1972)

THE UNIVERSITY OF SUSSEX
ASSISTANT MICROPROCESSOR SPECIALIST
(Male/Female)

A Microprocessor Unit has been established in the Computing Centre to provide a support service for microprocessor-based developments to all sections of the University. Applications are invited for the post of Assistant Microprocessor Specialist to assist in the detailed design, construction and commissioning of microprocessor-based hardware. It is expected that some 25% of the successful applicant's time will be spent on investigating faults of teletypes, VDUs and communication lines and equipment.

Candidates should have proven experience in microprocessor/microelectronic applications and a degree or equivalent qualification in electronics would be preferred.

Salary will be at the Other Related 1B/1A scales £4,405-£8,768 p.a.

Application forms from the Staff Records and Recruitment Officer, Bessex House, University of Sussex, Falmer, Brighton BN1 9RH.

(1982)

WANTED

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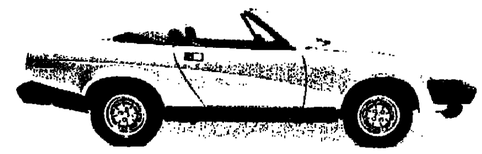

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(1988)

Race against time

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(1985)